DOCUMENT RESUME

ED 402 459 CE 073 110

AUTHOR	Quigley, Denise D.
TITLE	Native and Immigrant School-to-Work Transitions. Refocusing Policy Concerns.
INSTITUTION	Rand Corp., Santa Monica, Calif.
SPONS AGENCY	Bureau of International Labor Affairs (DOL), Washington, D.C.
REPORT NO	RGSD-133
PUB DATE	96
NOTE	182p.; Ph.D. dissertation, RAND Graduate School.
AVAILABLE FROM	RAND Distribution Services, 1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138; telephone: 310-451-7002; fax: 310-451-6915.
PUB TYPE	Dissertations/Theses - Doctoral Dissertations (041)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Asian Americans; Blacks; *Education Work Relationship; Ethnic Groups; *Full Time Students; *High School Graduates; Hispanic Americans; *Immigrants; Mexican Americans; Minority Groups; *Part Time Employment; *Part Time Students; Postsecondary Education; Secondary Education
IDENTIFIERS	Asian American Students; High School and Beyond (NCES); Hispanic American Students

ABSTRACT

A research study examined the joint employment and schooling patterns of both immigrants and natives during their initial 6 years after high school. The data analyzed were from the Senior Cohort of the High School and Beyond survey covering 1980-86. The analysis found that immigrants who initially left school as high school graduates or with some postsecondary education did not move frequently between employment, unemployment, and labor force nonparticipation, despite the fact that they accumulated less work experience during their earlier years in the labor market. Instead, relative to natives, immigrant youth are spending more time during the transition attending postsecondary school, as a single activity or combined with employment. The patterns observed for immigrant youth were found to depend on immigrants' years in the United States and country of origin. The tradeoff of spending more time during the transition attending postsecondary education instead of working as a full-time activity is more pronounced the less time an immigrant has spent in the United States. Mexican immigrants attend more postsecondary school than natives, but they do this combined with part-time employment. Central American immigrants also attend more postsecondary school than natives, but combined with full-time employment. Asian immigrants trade 1 year less of work experience (of 6 years) for 1 year more of postsecondary education, half of which is combined with part-time employment. Immigrant Hispanics combine school with full-time employment, whereas Hispanic Americans work full time as their sole activity. Black immigrants attend more postsecondary school than native blacks. The study concluded that the school-to-work transition of immigrants appears at least as smooth as that of natives, indicating that there is no additional need for targeted assistance for immigrants. (The report includes 63 references, six appendixes describing immigrant and native youth work-school patterns, 24 figures, and 34 tables.) (KC)

CE

ED 402 459

DISSERTATION

RAND

Native and Immigrant School-to-Work Transitions

Refocusing Policy Concerns

Denise D. Quigley

RAND Graduate School

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating

☐ Minor ch[illegible] have been made to improve reproduc[illegible] uality

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J. Ryan

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

CE073110

© Copyright 1996 RAND

All rights reserved. No part of this book may be reproduced in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from RAND.

The RAND Graduate School dissertation series reproduces dissertations that have been approved by the student's dissertation committee.

RAND is a nonprofit institution that helps improve public policy through research and analysis. RAND's publications do not necessarily reflect the opinions or policies of its research sponsors.

Published 1996 by RAND
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138
RAND URL: http://www.rand.org/
To order RAND documents or to obtain additional information, contact Distribution
Services: Telephone: (310) 451-7002; Fax: (310) 451-6915; Internet: order@rand.org

DISSERTATION

RAND

Native and Immigrant School-to-Work Transitions

Refocusing Policy Concerns

Denise D. Quigley

RAND Graduate School

The original version of this study was prepared as a dissertation in August 1996 in partial fulfillment of the requirements of the doctoral degree in public policy analysis at the RAND Graduate School. The faculty committee that supervised and approved the dissertation consisted of Roger Benjamin (Chair), Georges Vernez, Robert F. Schoeni.

PREFACE

The continual increase of foreign-born among youth, particularly among those who leave school and enter into the workforce, raises issues concerning the particular school-to-work paths immigrants follow as well as the different constraints and trade-offs immigrants face. This research examines the joint employment and schooling patterns of both immigrants and natives during their initial six years after high school. The data analyzed is the Senior Cohort of the High School and Beyond survey covering 1980-1986.

This dissertation should interest anyone involved in the interactions between immigration, the labor market, and the United States educational system, particularly in terms of the school-to-work transition, including federal, state, and local policymakers; school and college administrators, teachers and school-to-work coordinators; and researchers.

This dissertation was submitted in partial satisfaction of the degree of Doctor of Philosophy in Public Policy Analysis from the RAND Graduate School. Funding in support of this dissertation was provided under purchase order no. B9452874 from the U.S. Department of Labor, Immigration Policy and Research Division, Bureau of International Labor Affairs. The analyses and conclusions presented herein do not necessarily represent the official position of the U.S. Department of Labor.

TABLE OF CONTENTS

Preface iii
Table of Contents v
Figures vii
Tables ix
Summary xi
Acknowledgments xv
1. Introduction 1
    The Immigrant Boom 2
    School-to-Work Transition 4
2 A School-to-Work Framework 7
    Influences on School-to-Work Decisions 7
        Individual and Family Traits 7
        Reasons Why Immigrants May Follow Different School-to-Work Paths 8
        Labor Market and Educational Opportunities 10
    Research Questions 10
    Scope 11
    Focus Population 12
    School-to-Work Paths influence Perceptions and Focus of Policymakers 13
3. Methodology 16
    School-to-Work Decision Outcomes 16
        Full-Time Activity Grouping 17
        Combined vs. Single Activity Grouping 18
        Full-time vs. Part-time Activity Grouping 18
    Regression Modeling Scheme 19
    Dynamic Semi-Markov Chain Model Methodology 21
4. Do Immigrants Follow Different School-to-Work Transition Paths? 26
    Experience in School-to-Work Activities 28
    Labor Force Participation 32
    Returning to School and Attaining Post-Secondary Degrees 36
        The Rate of Returning to School and Attaining a Degree 36
        Timing of the Return to School and the Duration of Time Spent Out of School 39
    Transition Probabilities 42
        The Probability of Entering a New job Conditional on Employment and Hazard Rates 43
        Probability of Entering Non-Employment after Employment or after Post-Secondary Education 47
        Probability of Post-Secondary Education after Non-Employment or after Employment 49
        Probability of Entering a Job after Non-Employment or after Post-Secondary Education 51
    Summary 53
5. Do Immigrants Follow Different School-to-Work Paths Based on the Number of Years Spent in the United States or Country of Origin ? 54
    Immigrant School-to-Work Patterns according to the Number of Years in the United States 55
    Immigrant School-to-Work Patterns by Country of Origin 59
    Summary 64

6. Can the Different Immigrant and Native School-to-Work Patterns be explained by Observables? 66
    Explaining Immigrant School-to-Work Paths 67
    Explaining Recent vs. Earlier Immigrant School-to-Work Patterns 69
    Explaining the Different Country of Origin School-to-Work Patterns 72
    Summary 77

7. Are Known School-to-Work Disparities Due to an "Immigrant Effect" ? 85
    Racial Patterns of School-to-Work Transition 85
        Summary 91

8. Conclusions and Policy Implications of the Different School-to-Work Patterns For Immigrants and Natives 94
    Summary of Findings 95
    Policy Implications 96
    Conclusions and Further Research 100

Bibliography 103

Appendix A: The Data, Sample Restrictions, and Final Analysis Sample 107
    Overview 107
    The High School and Beyond Data 107
        Study Design and Data Collection 108
    Defining School Leaving Groups & Building Schooling Event Histories 110
        What is a School Leaving Group? 110
        Building Schooling Event Histories and Assigning SLGs 113
    Building Employment Event Histories 115
    Sample Restrictions 118
    The Analysis Sample 123
        Comparing the Analysis Sample with the Dropped Observations 124

Appendix B: Seam Bias 129

Appendix C: Mutually Exclusive Sets of Outcome Measures 139

Appendix D: Static Labor Force Status for White Male High School Graduates from HSB and NLSY 141

Appendix E: Explanations of immigrant School-to-work Paths 143
    Do Individual or Family Characteristics explain the Different School-to-Work Paths of Immigrants ? 143
    Do Individual or Family Characteristics explain the Different School-to-Work Paths of Recent vs. Earlier Immigrants ? 145
    Does an Immigrant Student's Environment explain their Different School-to-Work Paths ? . 150
    Does a Student's Environment explain the Recent vs. Earlier Immigrant School-to-Work Paths ? 154
    Does a Student's Environment Explain the School-to-Work Paths for Immigrants from Different Countries of Origin? 159

Appendix F: Potential Immigrant Effect on other observables 163
    School-to-Work Patterns by English Language Characteristics 163
        Summary 165
    Other Known Influences on School-to-work Patterns remained Unchanged when Correcting for Immigrant and Native Differences 167

FIGURES

Figure 1.1: Percent of 15-24 year olds who are Immigrants 3
Figure 1.2: Percent of Students Enrolled in School who are Immigrants 3
Figure 2.1: Individual and Family Traits as well as External Environment Conditions influence School-to-Work Decisions 8
Figure 2.2: School-to Work Paths influence the Perceptions & Concerns Surrounding School-to-Work .. 14
Figure 3.1: Schematic for Three State Semi-Markov Model 23
Figure 3.2: Binary Decision Trees for a Transition Decision in any Given Month 25
Figure 4.1: Percentage of Time Immigrants and Natives Spent During Their Transition from School-to-Work in Given Activities from July 1980 until July 1986 30
Figure 4.2: Static Labor Force Status for Youth who Left School as High School Graduates or With Some Post-Secondary Education by Age 32
Figure 4.3: Static Labor Force Status for Immigrants (I) and Natives (N) who Left School as High School Graduates or With Some Post-Secondary Education by Age 35
Figure 4.4: Probability of leaving Employment (hE), Non-employment (hN), and Post-Secondary Education (hS), as well as, the Probability of Entering a New Job (q) 44
Figure 4.5: Probability of leaving Employment, Non-employment, and Post-Secondary Education, as well as, the Probability of Entering a New Job for Immigrants and Natives 46
Figure 4.6: Probability of Entering Non-Employment after Employment (r) or after Post-Secondary Education (1-m) 47
Figure 4.7: Probability of Entering Non-Employment after Employment (r) or after Post-Secondary Education (1-m) for Immigrants and Natives 49
Figure 4.8: Probability of Post-Secondary Education after Non-Employment (1-l) or after Employment (1-r) 50
Figure 4.9: Probability of Post-Secondary Education after Non-Employment (1-l) or after Employment (1-r) for Immigrants and Natives 51
Figure 4.10: Probability of Entering a Job after Non-Employment (l) or after Post-Secondary Education (m) 52
Figure 4.11: Probability of Entering a Job after Non-Employment (l) or after Post-Secondary Education (m) for Immigrants and Natives 52
Figure 5.1: The Percentage of Time Immigrants with Different Number of Years in the United States and Natives Spent During Their Transition from School-to-Work in Given Activities from July 1980 until July 1986 58
Figure 5.2: The Percentage of Time Immigrants from Different Countries of Origin and Natives Spent During Their Transition from School-to-Work in Given Activities from July 1980 until July 1986 63
Figure A.1: Assignment of School Leave Begin Date 111
Figure C.1: Outcomes for the Full-time Activity Grouping of School-to-Work Decisions For Any Given Month 139

Figure C.2: Outcomes for the Combined vs. Single Activity Grouping of School-to-Work Decisions For Any Given Month 140

Figure C.3: Outcomes for the Full- vs. Part-time Work Grouping of School-to-Work Decisions For Any Given Month 140

Figure D.1: Static Labor Force Status for Youth who Left School as High School Graduates or With Some Post-Secondary Education by Age from HSB and NLSY 142

TABLES

Table 4.1: Differences in Mean Accumulated Months Spent During the School-to-Work Transition in Given Activities for Immigrants and Natives 28
Table 4.2: Percent who Returned to School and who Attained a Degree (By School Leaving Group & Immigrant Status) 37
Table 4.3: Month of Return & Number of Months Spent Out of School 39
Table 4.4: Month of Return & Number of Months Spent Out of School (By School Leaving Group & Immigrant Status) 40
Table 5.1: Immigrants with a Different Number of Years in the United States have Different School-to-Work Patterns 56
Table 5.2: Immigrants from Different Countries follow Different School-to-Work Paths 60
Table 6.1: Individual and Family Influences impact Immigrant School-to-Work Activities 68
Table 6.2: Family and Individual Traits impact the School-to-Work Activities of Recent & Earlier Immigrants 71
Table 6.3: The Influence of Race on Immigrant's School-to-Work Paths by Country of Origin 79
Table 6.4: The Influence of Parent's Education on School-to-Work Paths by Country of Origin 80
Table 6.5: Influence of Academic Achievement on School-to-Work Paths by Country of Origin 81
Table 6.6: The Influence of English Skills on Immigrant's School-to-Work Paths by Country of Origin .. 82
Table 6.7: The Influence of College Aspirations on School-to-Work Paths by Country of Origin 83
Table 6.8: The Set of Controls impact on Immigrant's School-to-Work Paths by Country of Origin 84
Table 7.1: Immigrants impact the Racial Differences across School-to-Work Paths 93
Table A.1: Information Contained in the Senior Cohort of the High School & Beyond Survey 109
Table A.2: School Leaving Groups and their Abbreviations 112
Table A.3: Distribution of Months From School Leave Begin to School Return 113
Table A.4: The Seven Possible States of the Event Histories 115
Table A.5: Example of Logic and Definitions for Event Histories 118
Table A.6: Total Observations Lost Due to Sample-Selection Restrictions 119
Table A.7: Size of School-Leaving Groups for HSB Immigrants and Natives 123
Table A.8: Unweighted, Weighted, & Reweighted Percentages of the Original Sample by School Leaving Group 123
Table A.9: Aberrant Characteristics of the Analysis Sample and the Lost Observations illustrated by the Total Percentages and the Six Sample Restrictions 125
Table B.1: Example of Logic and Variable Coding for Individual Jobs in the Event Histories 134
Table B.2: The Number of Jobs Started and Ended in Any Given Month during the STW Transition ... 138
Table E.1: Individual and Family Characteristics Slightly impact Immigrant's School-to-Work Activities 144

Table E.2: Various Individual or Family Characteristics explain the Different School-to-Work Activities for Earlier vs. Recent Immigrants 148
Table E.3: External Influences impact Immigrant School-to-Work Activities........ 153
Table E.4: High School Characteristics impact the School-to-Work Activities of Recent and Earlier Immigrants 157
Table E.5: External Influences impact the School-to-Work Activities of Earlier & Recent Immigrants .. 158
Table E.6: The Set of Controls impact on Immigrant's School-to-Work Paths by Country of Origin 161
Table E.7: Labor Market & Educational Opportunities effect on School-to-Work Paths by Country of Origin 162
Table F.1: Youth with a Non-English First Language follow different School-to-Work Paths........ 166

SUMMARY

With immigrants representing a growing proportion of the youth population, it is important to understand the choices immigrants make and the different school-to-work paths they follow. Immigration over the last thirty years has increased continually and changed the demographic and socio-economic profile of youth. The percent of American youth born outside of the United States enrolled in secondary schools has increased from 1.5 percent in 1960 to 11.5 percent in 1990. This growing presence of immigrants enrolled in middle and high schools increases the number of immigrants leaving high school and entering the workforce now and in the future. Moreover, many immigrant youth come from families with low and middle incomes, low parental education, and limited English skills. This dissertation analyzed whether, how, when, and why immigrants and natives differ during their school-to-work transitions. Specifically, the research focused on youth who left school as high school graduates or with some post-secondary education in terms of their trade-offs between 1) work, school, and non-employment, 2) combining work with school or either work or school as a single activity, or 3) full-time or part-time employment combined with or without post-secondary schooling.

By jointly considering schooling and employment decisions, it was found that immigrants who initially left school as high school graduates or with some post-secondary education were not found to move frequently between employment, unemployment, and labor force non-participation, despite the fact that they accumulate less work experience during their early years in the labor market. Instead, relative to natives, immigrant youth are spending more time during the transition attending post-secondary school, as a single activity or combined with employment.

The patterns observed for immigrant youth are found to depend on immigrants' years in the United States and country of origin. The tradeoff of spending more time during the transition attending post-secondary education instead of working as a full-time activity is more pronounced the less time an immigrant has spent in the United States. Mexican immigrants attend more post-secondary school than natives, but they do this combined with part-time employment. Central American immigrants also attend more post-secondary school than natives, but combined with full-time employment. Asian immigrants have the largest employment and schooling

differentials to natives. Asian immigrants trade one year less of work experience (out of six years) for one year more of post-secondary education, half of which is combined with part-time employment. These unique schooling and employment patterns continue to hold after correcting for individual and family characteristics.

Previous analyses have examined the school-to-work transition by race and ethnicity, but pooled immigrants and natives. This analysis shows that for Asians, blacks, and Hispanics immigrants and natives are different and thereby provides a more focused picture of differences by race for natives as well as immigrants. Immigrant Hispanics combine school with full-time employment , while native Hispanics work full-time as their sole activity. Black immigrants attend more post-secondary school than native blacks. Immigrant Asians are very different than their native counterparts. Immigrant Asians combine school with part-time employment more often. They also attend post-secondary education as a single activity more than Asian natives. In addition, Asian immigrants are employed full-time more often than Asian natives. These different patterns of immigrants indicate that native Hispanics and blacks fare worse during the school-to-work transition and native Asians follow similar paths to whites than previously documented.

Various policy implications can be drawn from this analysis. In general, the differences found between immigrant and native youth during their transition from school into the workforce implies the need for refocusing concerns over the lack of early labor market experience from immigrants toward native Hispanics and blacks. The school-to-work transition of immigrants also appears at least as smooth as that of natives, indicating that there is no additional need, over and above what is currently in place, for targeted assistance for immigrants. Strategies of access, retention, and degree attainment seem to reach immigrants as effectively as natives. However, the increased post-secondary attendance of immigrants heightens the importance of making college a focus in school-to-work programs as well as the importance of meeting the demand for remediation and English as a Second Language classes. The trade-offs faced by youth when combining work with secondary education also suggest that tackling issues of job quality and the potentially negative impact of working while attending post-secondary school will be crucial for the successful school-to-work transitions of immigrants and natives now and in the future. Research comparing immigrants and natives during their school-to-work transition paths who are high school drop outs, those immigrants who never dropped into the American school system. and those youth who initially leave school and enter the workforce with a post-secondary degree would provide more context to this analysis as well as a broader understanding of the choices faced by all immigrant and native groups leaving school and entering the workforce.

ACKNOWLEDGMENTS

So many individuals helped me over the course of writing this dissertation -- friends, professors, colleagues, family -- I wish to thank all of these people for their wonderful support and advice. Special thanks are necessary for the continual help, guidance, and support provided to me by my dissertation committee Roger Benjamin, Robert Schoeni, and Georges Vernez and my extraordinary sister, Michele Gress.

I am also very grateful to many other friends who encouraged me to persevere, look forward, and work hard: my mother, Margie Quigley; Donna Saenz; Brent Boultinghouse; Gwen Farnsworth; Dale Vanderwoude; Steve Stambough; Ann Stone; Bob Nordyke; Ellen Touchstone; Robert Reville; Cathy Stasz; and Gail Zellman. I also couldn't have enjoyed the time doing my research half as much without the wonderful hours of playing with my niece and nephew: Amanda Q. and Kyle Lawrence Gress.

1. INTRODUCTION

With the increasing demand for highly-skilled labor, policy makers, educators, parents, and employers are concerned about the school-to-work transition of youth. In particular, they are concerned about youth without post-secondary degrees gaining valuable work experience during their early labor market careers. In addition, immigrants have become an increasingly important part of the youth labor market. The fraction of immigrants among youth in their transition from school into stable employment has increased dramatically since the 1970s. Nonetheless, the school-to-work transition of immigrants has not been investigated. This dissertation compares the employment and schooling patterns of immigrants to natives in the United States.

Difficulties in the school-to-work transition stem from several sources. Many youth have a hard time entering stable employment because of their inexperience. Employers have trouble assessing youth's qualifications and maturity. In addition, there is a lack of integrated assistance to ease the transition from school into employment. Concerns have focused on youth's limited work experience and its impact on their career and labor market stability.

Immigrants potentially follow very different school-to-work paths than natives. A large proportion of immigrant youth are from families with low and middle incomes, low educational attainment, and limited English skills. Immigrants are also determined to pursue their American dream and motivated to utilize the opportunities in the United States. Their demographics combined with their values, attitudes, and aspirations impact the constraints and trade-offs they face as they move from school into the labor force, leading potentially to different paths than natives.

This analysis documents differences between immigrants and natives during the school-to-work transitions of high school graduates without post-secondary degrees. Next it analyzes the differences in school-to-work paths by an immigrant's length of time in the United States and country of origin. Then it examines what family and individual characteristics, such as family income, race, academic achievement, and college aspirations, explain the differences between immigrant and native school-to-work patterns. Finally, it revisits documented school-to-work differences by demographic and socio-economic characteristics to determine to what extent these differences change after accounting for immigrants.

This dissertation will assist educators, employers, and policymakers to understand what influences immigrant school-to-work paths and where to focus their concerns for the future. It will identify whether immigrants, or a sub-group of immigrants, have particular difficulties during their transition from school into the workforce which may need attention.

The research is divided into eight chapters. This chapter, as the introduction, frames the larger issues. The next section, section two, indicates that a large and rising share of American youth are born outside of the United States. Section three characterizes the transition from school to stable employment. Chapter Two elaborates a conceptual framework for analyzing the school-to-work transition and lays out the research questions. Chapter Three explains the methodology. Chapter Four illustrates the different school-to-work paths of immigrants and natives as well as discusses age differences among immigrants and natives in their school-to-work transitions activities. Chapter Five details the school-to-work paths pursued by immigrants according to number of years in the United States and country of origin. Chapter Six discusses individual characteristics which may explain immigrant differences in school-to-work decisions. Chapter Seven reports whether known school-to-work disparities can be explained as an "immigrant effect." Chapter Eight addresses the policy implications of immigrant youth's school-to-work patterns.

THE IMMIGRANT BOOM

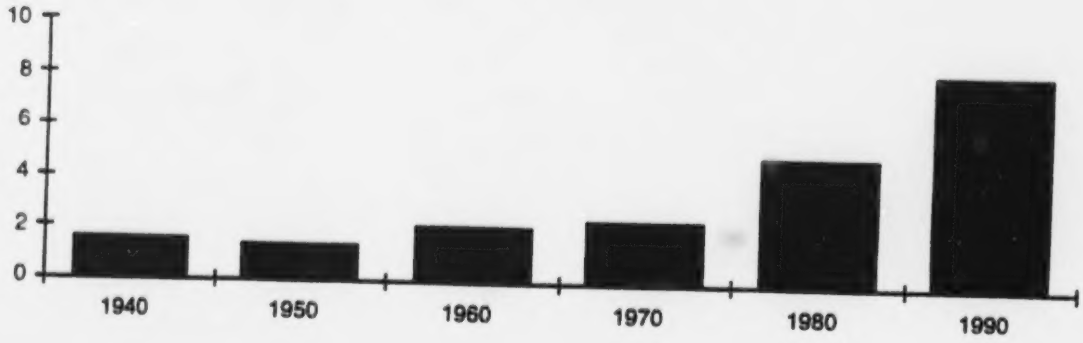
Immigration in the United States over the last thirty years has skyrocketed with the percentage of youth who are immigrants increasing substantially. As illustrated in Figure 1.1, in 1950, 1.4 percent of 15 to 24 year olds were immigrants, but by 1980, 4.8 percent were immigrants and in 1990, 8 percent were immigrants. The fraction of immigrants among the youth population enrolled in post-secondary school increased from 1.5 % in 1960 to 11.5 % in 1990. This growing presence of immigrants enrolled in middle and high schools, as depicted in Figure 1.2, translates into an increase in the number of immigrants leaving high school and entering the workforce.

Now is an important time to examine the school-to-work transition of immigrant youth because 16.5 percent of the youth entering the workforce between 1994 - 1998[1] will be immigrants. This increase of foreign-born youth entering the labor market raises questions about differences in the school-to-work transitions between immigrant and native youth. If immigrants, or any subgroup of immigrants, follow different paths than natives, this must be considered when making policy decisions concerning youth employment and post-secondary education.

---

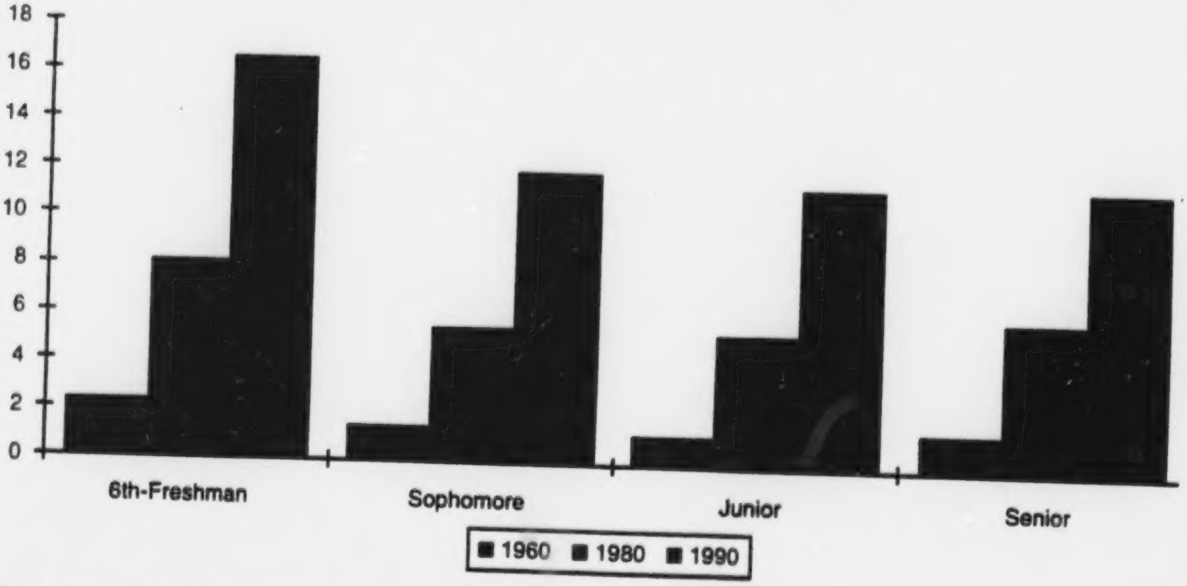
[1] Youth from the 1990 Census who are in 6th grade through Freshman year in high school will enter the labor force between 1994 - 1998.

Figure 1.1: Percent of 15-24 year olds who are Immigrants



SOURCE: 1960 data is for 14-19 year olds. Bureau of the Census: 1940-1990

Figure 1.2: Percent of Students Enrolled in School who are Immigrants



SOURCE: 1960 1 % file, 1980 5 % State file, 1990 5 % State file of the PUMS Census

SCHOOL-TO-WORK TRANSITION

The traditional pattern of full-time schooling followed by full-time employment is no longer the norm (Santos and Seitz, 1992). The transition from school-to-work is instead characterized by frequent movement between labor force non-participation, unemployment, and employment. This frequent movement is known as 'milling around' and is mirrored in high job turnover (Osterman and Iannozzi, 1993), high rates of switching in and out of the labor force (Freeman and Wise, 1982), rapid accumulation of jobs (BLS, 1993), low total years of work experience (Mincer and Leighton, 1982), and short job duration until the age of twenty (Klerman and Karoly, 1994a; 1994b; Topel and Ward, 1992). There are various explanations for why 'milling around' exists: the risk of non-employability, the lack of career opportunities, job mismatches, and youth's evaluation of time. (For detailed discussions of these explanations see Rosenbaum et al., 1990; Osterman and Iannozzi, 1993; Klerman and Karoly, 1994a; Rees, 1986; Becker, 1964, 1975; Lynch, 1993).

Students who move from job to job often have a higher risk of not finding a job and being unemployed or out of the labor force. Employers perceive 'job hopping' and time not spent in the work force as wasteful and a sign that an individual lacks the skills or persistence to find a job and keep it. Employers tend to perceive a lack of work experience, frequent periods of unemployment, or irregular work experience as a high risk. Employers are less likely to hire applicants with these traits since screening new employees, providing probationary periods, and supplying firm-specific training are costly. Many fear that 'milling around' could perpetuate into a spiral of unemployment because of an individual's lack of work experience and job persistence.

Another possible explanation for 'milling around' is the unsatisfactory jobs available to youth. This lack of job satisfaction leads to high turnover rates and voluntary unemployment. Feldstein (1973) argues that high job turnover reflects a lack of entry-level jobs that encourage youth to stay with an employer.[2] Some might argue that low wages are a disincentive for youth to work. Freeman and Wise (1982) claim however that it is not low wages as much as a need to offer non-monetary incentives to stay and accumulate work experience. Their research finds that, controlling for persistent characteristics of individuals, including education, low wages during initial periods of employment do not necessarily lead to a higher probability of low wage jobs in the future. Rather, it is less experience in the workplace that translates into lower future wages (Freeman and Wise, 1982). Therefore, it is the amount of work experience youth acquire during their early years, and not the level of wages received in initial jobs, that influences their potential future earnings[3], their ability to ease from school-to-work, and their career. Thus, offering youth entry-level jobs with the possibility of future training and advancement opportunities, not higher wages, potentially provides youth with the desire to both gain work experience and establish a career with a company.

---

[2] Also youth are often employed in part time, low-paying jobs which are highly sensitive to the cyclical movements in the economy (Freeman and Wise, 1982).

'Milling around' can also indicate problems finding a good match for a youth's skills and interests. Workers take jobs and continue to evaluate the costs and benefits of the job. At any point, when a worker evaluates their job as too costly or not what they want, they begin to look for another job. For the worker this job-matching process involves learning about the work place and their own capabilities, gaining new skills and experience, and working at a series of jobs before finding a good, stable match. Job turnover and 'milling around' between jobs and unemployment while searching for a job is therefore a result of this matching process.

'Milling around' may also be more prevalent among youth who place a higher value on leisure or have other sources of income and support than work (Topel 1991; Topel and Ward, 1992). Many youth supplement their income through parental support, student loans, living at home, etc. The reduced financial burden will increase the demand for leisure, and increase unemployment and non-participation. Indeed, if teenagers place a higher value on leisure than adults do, then they will work less or work at irregular intervals.

'Milling around' tends to be more of a concern for those youth who have low levels of educational attainment, referred to in the school-to-work literature as the 'forgotten half.'[4] Youth who leave high school and join the workforce, for example, enter stable employment at older ages than those with higher levels of education despite the fact that they enter the labor force earliest (Veum, Weiss, 1993; Klerman, Karoly, 1994a). Youth who leave high school and enter the workforce are the least equipped to transition smoothly from school into the workforce.

---

[3] This is also reflected in the fact that work experience accumulated before leaving school makes finding an initial job easier (Tienda and Hotz, 1994).

[4] The term, the 'Forgotten Half', refers to the half of all students who do not pursue schooling beyond high school and for whom the United States invests relatively few resources (Apling, 1992).

Moreover, post-secondary educational attainment diminishes ethnic and gender differentials across various school-to-work outcomes: the number of jobs held, the number of weeks of work experience accumulated during the transition from school-to-work (Veum, Weiss, 1993; Tienda, Hotz, 1994; BLS, 1992, 1993), and the time between school completion and finding a job (Veum, Weiss, 1993). Therefore, policy makers and educators are particularly concerned about youth without a college degree 'milling around' in the labor market (Apling, 1992; Stern, et al., 1995) since it is less frequent among youth with higher levels of education.

For many years, the United States has offered little assistance to youth during their transition from school into the workforce. Recently, the School-to-Work Opportunities Act (1994) was passed to build a high quality, equal access school-to-work system. However, it does not outline specific program features to policymakers, educators, and practitioners, nor address the feasibility of providing work-based learning experiences to youth nation-wide. As a result, information is needed about the needs, challenges, and characteristics of the population to be served by these school-to-work programs. This analysis provides this type of information about an ever-growing portion of the youth who will be partaking in school-to-work programs: immigrant youth.

2 A SCHOOL-TO-WORK FRAMEWORK

INFLUENCES ON SCHOOL-TO-WORK DECISIONS

Economic and sociological explanations of the choices made during the school-to-work transition have common ground, despite their differing emphases. Both literatures recognize the value of skill acquisition early in life. They also agree that choices concerning the timing of post-secondary schooling and entering the workforce (i.e. Becker's theory of time allocation, discussed in detail later in this chapter) are driven by future economic expectations and influenced by financial and resource constraints. Moreover, they acknowledge that labor market conditions determine the range of opportunities for acquiring early work experiences (Freeman and Holzer, 1986; Hirschman, 1988; Mare, et al, 1984). As a result, the theoretical considerations from both economics and sociology suggest two general influences on youth's decisions to work, attend school, or combine these activities. These factors are individual and family traits as well as changes in labor market and educational opportunities (Figure 2.1). Both of these general influences drive how an individual evaluates their choices, opportunities, future economic expectations and allocation of time. Their series of choices determine their school-to-work path.

Individual and Family Traits

Traits of an individual or their family impact employment and schooling decisions. Maturity, in terms of age and work history assist youth in the types of jobs offered to them, their overall employability, as well as, their occupational aspirations. More advantaged students, i.e. non -minority youth from higher income families, are more likely to hold jobs during their adolescence and acquire work experience (Mortimer and Finch, 1982). Minority and immigrant youth are also more likely than white youth to reside in families where economic necessity may require them to leave school and enter the work force full-time. Family resources and budget constraints, such as parents' education and family income, influence youths' evaluation of their time and future gains, which impact their decisions about labor market entry and the continuation of school. In particular youth from families with high levels of parental education and high family incomes are more likely to attend post-secondary schooling as their sole activity than their counterparts from low income and less educated families

(Mortimer and Finch, 1982). Youth from low- and middle-income families, however, who place a high value on education are more likely to pursue post-secondary education, albeit in combination with work.

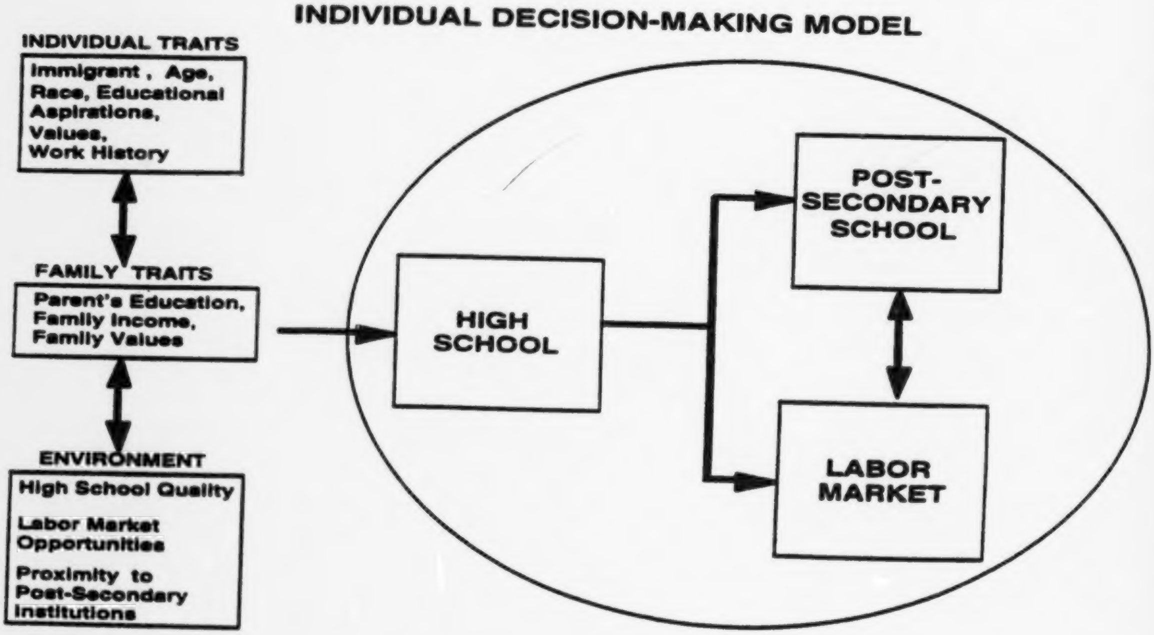

INDIVIDUAL DECISION-MAKING MODEL
INDIVIDUAL TRAITS
Immigrant, Age, Race, Educational Aspirations, Values, Work History
FAMILY TRAITS
Parent's Education, Family Income, Family Values
ENVIRONMENT
High School Quality
Labor Market Opportunities
Proximity to Post-Secondary Institutions
HIGH SCHOOL
POST-SECONDARY SCHOOL
LABOR MARKET

Figure 2.1: Individual and Family Traits as well as External Environment Conditions influence School-to-Work Decisions

Reasons Why Immigrants May Follow Different School-to-Work Paths

Although research has not focused on immigrant youth during their transition into the workforce, the little that is written is an outgrowth of research on Hispanics. Patterns of school departure and labor market participation are different by race and Hispanic origin (Mare and Winship, 1984; D'Amico and Maxwell, 1990; Coleman, 1984). In particular, a review of studies about the school-to-work transition of Hispanics based on the National Longitudinal Surveys of Youth Labor Market Experiences (NLSY) and the High School and Beyond Surveys (HSB) suggests that Hispanics have not fared well in the educational or employment arenas (Santos and Seitz, 1992). In addition to race, an individual's immigration history and language may affect their school completion, grades, and other achievement scores.[5]

---

[5] Further analysis was recommended to disentangle the effect of foreign language usage, being an immigrant, and being Hispanic.

Many observers in higher education expect immigrant students to face special difficulties achieving academic success in college (Romero, 1991; Scarpaci and Fradd, 1985; Sue and Zane, 1985). Foremost, immigrants face the challenge of language, because even those immigrants who achieve high levels of success in high school might encounter difficulty meeting the higher collegiate demands for reading and writing, as well as, understanding the more complex and abstract classroom discussions. Therefore, non-English first language immigrants may encounter additional pressures and face different trade-offs in pursuing post-secondary education or entering the labor market.

Furthermore, the relative decrease in skill levels and labor force participation for the whole immigrant population could be reflected within the youth population. If it is, then a large share of Hispanic (or Central American) youth -- the most recent immigrant groups -- would impact the overall trends of labor force participation and educational attainment during the school-to-work transition of immigrant youth or all youth. The current understanding that Hispanic youth have fewer years accumulated work experience, more jobs held, and less time at their longest job held than non-Hispanic white youth (Veum, Weiss, 1993; BLS, 1992, 1993; Karoly, Klerman, 1994a), could be a result of the large share of immigrant Hispanic youth who have parents with low levels of skill and/or labor force participation .

Overall, immigrants could possibly follow different school-to-work paths because of the high proportion of immigrants who come from low- and middle-income families, the low education levels of their parents, their immigration history, acculturative stress, the different values placed on education and work held by various cultural groups, weak English language skills, as well as, the lack of familiarity of the United States education system and labor market, particularly in terms of filling out applications and gaining access to information.

Despite these differences in individual and family traits, it is possible that immigrant youth come from families, which are inherently a select group of highly motivated and determined people based on the efforts and demands immigration to the United States requires. It is possible that immigrant differences over and above the observable individual and family traits are attributable to selectivity, i.e. that immigrant youth are a select, highly motivated group.

Labor Market and Educational Opportunities

The choice to work or attend post-secondary education is influenced not only by individual and family characteristics, such as work experience, aspirations, parent's education and income, but also by the set of opportunities available for employment (based on potential employers and the economic environment) and for attending post-secondary institutions. Opportunities in the local labor market and in the surrounding area for furthering post-secondary education influence youth's decisions during their transition from school into the workforce. There is vast literature showing that youth employment decisions are highly sensitive to changes in aggregate demand (Hirschman, 1988; Lynch, 1989; Clark and Summers, 1981; Rees, 1986). Local demand effects the re-employment probabilities of youth with stark differences across race (Lynch, 1989). Responses to cyclical variation in unemployment and periods of economic recovery are also known to differ across Hispanic, black and white youth (Hirschman, 1988). These external environment influences therefore do differ by race, but differences across immigrant status have not been investigated. Further research is needed in these areas.

Thus, the compositional changes within the youth population, the underlying conditions of the labor market and educational opportunities, as well as, the performance, capabilities, attitudes, characteristics, and treatment of immigrants in the United States labor market could effect the school-to-work patterns of all youth. The ensuing chapters therefore address these issues specifically by analyzing whether, how, and when immigrants and natives differ during their school-to-work transitions. Specifically this analysis asks questions about the relationship between being an immigrant and the decisions involved in leaving school and finding stable employment. The objective of the research is to answer the following series of research questions and discuss their implications for policy:

RESEARCH QUESTIONS

I. Do immigrants follow different school-to-work paths than natives ?

- Are there (raw) differences in the school-to-work transition of immigrants and natives ?
- Do immigrants' (static) labor force participation status differ by age from natives ?
- Do immigrants differ in their patterns of returning to school and attaining post-secondary degrees ?
- Does the probability of school-to-work choices differ for immigrants and natives as they age ?

II. Do immigrants follow different school-to-work paths based on the number of years in the United States or country of origin?

- Do immigrant's school-to-work decisions differ by their length of time spent in the United States or by their country of origin ?

II. Can the different immigrant and native school-to-work paths be explained by observables?

- Does race, parent's income, academic achievement, English characteristics, etc. explain immigrant differences ?
- When controlling for individual and family traits as well as ability and academic preparation, are there specific elements in an immigrant student's environment, for example in the high school or in the labor market, that influence their school-to-work decisions ? In other words, do schooling and employment decisions for students with identical academic preparation differ systematically because of the different labor market opportunities confronted by immigrants and natives, or the different immigrant and native high school environments?

IV. Are previously documented disparities in school-to-work paths due to an "immigrant effect"?

- Do the effects of individual and family characteristics on adolescent school-to-work decisions, such as race, college aspirations or parent's education, differ when controlling for immigrant status?

SCOPE

To talk about the transition from school-to-work there should be a common understanding of when the transition from school-to-work for an adolescent begins. The transition into the work force begins with leaving school, which is defined as the time when an individual decides to no longer attend school full-time and either enters the workforce, is unemployed, or is not in the labor force as a full-time activity for a length of time. Thus, the decision to work during the summer or the school year or to take time off from school over the summer or as a short break, do not represent a decision to change full time activities from 'school-to-work'. For this reason, this analysis excludes jobs held during the summer as part of an individual's transition. If a job was held only during summer vacation for as long as June through August or as a one to two month break from school for any other reason, then the job was not considered to be an individual's entry into the work force and hence define the beginning of their school-to-work transition. The beginning of an individual's school-to-work transition is the month in which an individual leaves school for the first time and does not return for up to and including three non-summer months. This and other definitions concerning the school-to-work transition are detailed in Appendix A.

FOCUS POPULATION

The focus population of these analyses are adolescents who left school as high school graduates or with some post-secondary education and entered the workforce. There is concern for these youth because they tend to enter stable employment at an older age than those with higher levels of education despite the fact that they enter the labor force earliest (Apling, 1992; Veum, Weiss, 1993; Klerman, Karoly, 1994a; Stern, et al., 1995).

High school drop outs and those youth who leave school with a post-secondary degree are not analyzed. High school drop outs who are the least equipped to transition smoothly into the labor force are not included in the analysis because of data limitations. The sample sizes are too small for high school drop outs (Table A.7) because the HSB data was collected on Seniors and other data sources on high school drop outs do not provide the information necessary to study their full school-to-work transition.[6]

Moreover, youth who initially left school with a post-secondary degree were not included for several reasons. 6.3 percent of the natives and 5.7 percent of the immigrants fell into this category; the sample sizes were too small to analyze (Table A.7). The timeframe covered from 1980 - 1986 also did not include enough of their transition. For example, if they finished college in four years, they would be entering the labor force in 1984 or 1985; they data was only collected until 1986[7]. Moreover, youth who enter the labor force with a college degree tend to ease smoothly into the labor force.

Excluding these two groups does not however bias the sample in terms of selectivity of immigrants and natives. These issues are detailed in Appendix A. In sum, the following analyses are conducted only for those youth who begin their transition into the workforce as high school graduates or high school graduates with some post secondary education, but not a college degree.

---

[6] Once the National Educational Longitudinal Survey (NELS) started in 1988 with a cohort of eighth graders has aged sufficiently to include enough of their transition into the workforce, NELS could be used to analyze the differences across high school drop outs during their transition by immigrant status.

[7] Once the Senior Cohort 1992 data is released these youth who initially left school with a post-secondary degree could also be analyzed during their transition into the workforce according to immigrant status.

This analysis also does not focus on all immigrant youth. Immigrant youth in the United States who do not attend an American high school are not included. Only immigrants who attend American high schools are a comparable population to natives in terms of school-based policies directed toward smoothing the transition from school into the workforce and the transition from school into the workforce in the United States. To be comparison groups, both populations should have the same baseline experience: attending an American high school and then entering the United States labor market. This analysis also has no discernible way to identify whether the foreign-born are legal or illegal immigrants, since both groups enroll in United States high schools.

This restriction limits the generalizablity of the findings to the specific population of immigrants and natives who initially left school as a high school graduate or with some post-secondary education. Youth who continue immediately onto post-secondary education and attain a degree transition smoothly into the workforce and are not a large concern for policymakers, educators, or employers. Immigrants however who drop out of high school or never drop into the American school system potentially would have difficulty in their transition into the labor market. Therefore, further analysis is still needed for these other immigrant youth groups who nonetheless make a transition into the United States workforce.

SCHOOL-TO-WORK PATHS INFLUENCE PERCEPTIONS AND FOCUS OF POLICYMAKERS

With immigrants representing a growing proportion of the youth population, it is important to understand the different paths they follow during their transition from school into the workforce. This information will help assess current and future policy concerning school-to-work and immigrants' success in post-secondary institutions and the labor market.

An increasing number of youth following different school-to-work paths could shape what areas policy makers, educators, and employers focus their attention and resources on to assist youth leaving high school and begin their transition from school into the workforce. Dependent upon which activities immigrants engage in differently than their native counterparts, particular issues may need more attention now and in the future to accommodate the increasing number and growing proportion of immigrant youth in post-secondary institutions, the labor market, not in the labor force, or moving between these activities. Figure 2.2 depicts particular policy issues surrounding various school-to-work paths.

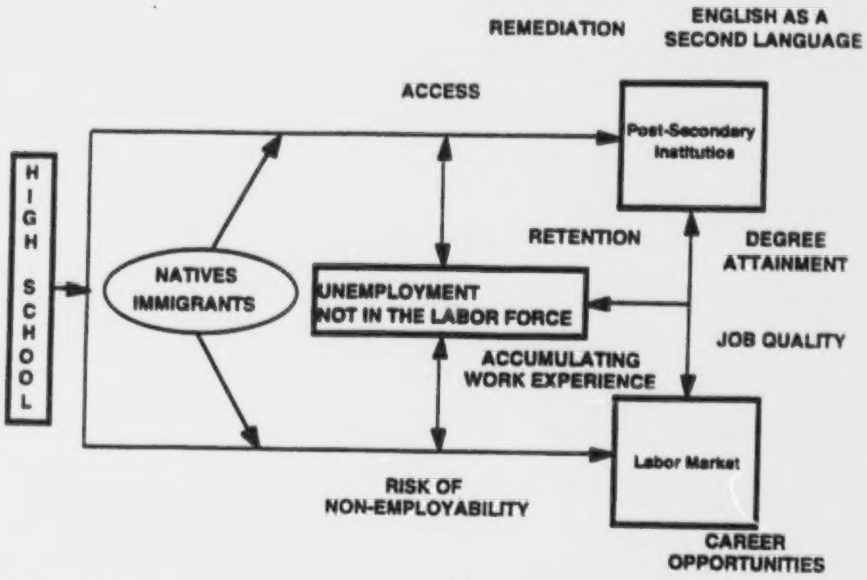

REMEDIATION
ENGLISH AS A SECOND LANGUAGE
ACCESS
Post-Secondary Institutions
HIGH SCHOOL
RETENTION
DEGREE ATTAINMENT
NATIVES IMMIGRANTS
UNEMPLOYMENT NOT IN THE LABOR FORCE
JOB QUALITY
ACCUMULATING WORK EXPERIENCE
Labor Market
RISK OF NON-EMPLOYABILITY
CAREER OPPORTUNITIES

Figure 2.2: School-to Work Paths influence the Perceptions & Concerns Surrounding School-to-Work

A growing number of immigrant youth leaving school and becoming unemployed or not in the labor force underscores the school-to-work concerns outlined earlier in terms of job turnover, job mismatches, accumulating work experience, job quality, and the risk of non-employability. Additional consideration of these issues depend on whether immigrants' probability of entering non-employment is higher than for natives and whether immigrants are fundamentally different than natives (i.e. immigrants who are non-employed or lacking work experience have lower English skills than their native counterparts).

A large number of immigrant youth returning to post-secondary education during their transition from school-to-work underscores other pressing topics. For example, access to post-secondary institutions is a current concern. Growth in the college-age population, particularly in states such as California that are absorbing large numbers of immigrants, coupled with declines in funding for public colleges and universities suggest that a growing gap between the number of students who are eligible for higher education and the availability of enrollment spaces will reduce participation rates for all groups, but especially for low and middle income students. Youth who do not immediately go onto college after high school have a harder time competing for access to post-secondary institutions (Breneman, 1995; Shires, 1995). This research also implies that youth from low and middle income families, who are largely immigrant and non-minority, will have a harder time competing for access to higher education.

If immigrants have a higher probability of returning to post-secondary education, then access to higher education may potentially not be a problem. But more particularly, an increasing number of immigrants entering into colleges and four year universities raises the demand for post-secondary education. An increase in the demand for post-secondary services adds to current concerns over staffing, scheduling, testing, and institutional responsibility (Gray, 1996).[8] Overall, increases in college attendance emphasize strategies of degree attainment and targeting school-to-work programs at youth interested in pursuing college.

Moreover, large portions of youth combining work and school highlights the need to understand more about the quality of the work experience acquired while attending post-secondary education and its impact on future careers. Most jobs held while attending school are low-wage part-time jobs. Accumulating part-time work experience without earning a post-secondary degree may hurt their future chances of attaining full-time employment. In addition, combining work with school is also intertwined with strategies for post-secondary retention. Working while in school can negatively impact a student's ability to study and remain in school. Time pressure, financial constraints, and family responsibilities faced by students all decrease the probability of youth attaining degrees.

Based on the growing fraction of immigrants among the youth population and the potentially different paths chosen by immigrants and natives, current and future policy issues concerning the school-to-work transition may need to be refocused and reanalyzed.

---

[8] The increased demand for post-secondary education by immigrants could in turn raise the demand for remediation and English as a second language.

3. METHODOLOGY

This dissertation utilizes multivariate regression models and semi-Markov chain models to determine whether, how, when, and why school-to-work transitions differ across immigrant status. The models also investigate whether demographic, family, and school characteristics explain the different school-to-work activity patterns followed by immigrant and native youth during their transitions from school into the workforce. The analysis is based on a set of outcomes which jointly consider school continuation and employment decisions. The next section discusses the school-to-work decisions outcomes. Section two outlines the regression modeling strategy and section three details the semi-Markov chain methodology.

SCHOOL-TO-WORK DECISION OUTCOMES

Leaving school and finding stable employment in the United States is characterized by frequent movement between labor force non-participation, unemployment, and employment. This frequent movement is conventionally measured by job turnover, rates of switching in and out of the labor force, changing of jobs, total years of work experience, and job duration. However, these single measures do not capture the details of the school-to-work transition, in terms of combining work with school or part- vs. full-time employment, which have grown more common. Therefore, instead of analyzing any single measure, a more elaborate framework of both the post-secondary education and employment decisions involved in an adolescent's transition from school into the workforce and their timing will be used to shed light onto what is involved in the transition from school-to-work. Jointly considering the school continuation and employment decisions provides a better framework in which to understand the labor market development of youth than do analyses that treat post-secondary education and employment separately.

This analysis uses a detailed framework of the school-to-work transition which emphasizes three different aspects of adolescent's transition decisions based on time allocation: conventional full-time activity, combined vs. single activity, and full- or part-time work. These are explained in detail in the following paragraphs, but first a discussion of all the possible activities before they are grouped is presented.

The seven main experiences involved in moving from school into the work world are:

1) only attending post-secondary education,
2) only working part-time,
3) only working full-time,
4) combining post-secondary education with either full-time or part-time work,
5) returning to post-secondary education combined with part-time work,
6) unemployment, and
7) labor force non-participation

Each of the groupings combines these seven outcomes in a mutually exclusive set of outcome measures of the main experiences in moving from school into work, as defined by the grouping. Appendix C illustrates how the seven activities are grouped to create the set of outcome measures for each the groupings.

Full-Time Activity Grouping

The first characterization, Full-time Activity Grouping, which is seen most often in the literature is based on the time allocation model presented by Becker (1975). Time is divided among school, work for pay, and leisure, where leisure refers to all activities other than school or market work. Becker makes two assumptions: 1) individuals can borrow against their lifetime wealth and derive welfare from goods which are produced at home with both time and market inputs; 2) time is the only productive input in the production of human capital. With these two assumptions, Becker shows that utility maximizing individuals who devote time to school, work, and leisure in a single period equate the marginal value of leisure, their wage, and the present value of the expected lifetime income increase from additional time at school. Returning to school is calculated net of tuition costs. Since all people allocate time to leisure, this model implies that no time is devoted to school when at zero hours of schooling the present value of expected returns is less than the marginal value of leisure. Conversely, no hours are devoted to work when the wage offer is less than the marginal value of leisure at zero hours of work. Consequently, individuals neither attend school nor work when the marginal value of leisure exceeds both the wage offer and the expected return to schooling; as a result, all time is devoted to leisure.

Thus, the Full-time Activity Grouping defines school-to-work options according to how much time is spent in school, work, or non-employment at any given point in time. This means that if an adolescent is working full time, regardless of whether they are attending post-secondary school or not, they are considered working full-time: moreover, if an adolescent is attending post-secondary school or working part-time and attending post-secondary school, they are considered in school.

Combined vs. Single Activity Grouping

The Full-time Activity Grouping based on the time-allocation model, however, glosses over the ever-increasing decision made by youth, particularly those who want to attend college but are faced with limited financial opportunities, to combine work and post-secondary education (Stern, et al., 1995). Therefore, the second breakdown, Combined vs. Single Activity Grouping, emphasizes the decision of combining post-secondary education with work at any given point in time versus the option of working or attending post-secondary education as a single activity. It alters the assumption made by Becker that time is allocated exclusively to work, school, or leisure. Time can be allocated to school, work, and leisure in an almost infinite number of ways. This grouping includes the decision by youth to combine school with work.

Full-time vs. Part-time Activity Grouping

Finally, the third school-to-work grouping, Full-time vs. Part-time Work Grouping, classifies choices by the number of hours spent working in the workforce, regardless of attending post-secondary education. This grouping recognizes that many youth work at part-time jobs either because of limited labor market opportunities, segmented labor markets, or the decision to devote part of their time to education. Part-time jobs serve different functions than full-time jobs in terms of making a transition into the workforce.

Combined together these three groupings of school-to-work decisions include the intricacies of the transition from school-to-work experienced more often by those youth who do not immediately go onto college, i.e. those who combine work with school, or work part-time. Thus, this framework provides a more in-depth description of the choices made by youth during their transition from school into the workforce. The Full-Time Activity Grouping provides the baseline, as found in the literature, of the time allocation model; the Combined vs. Single Activity Grouping relaxes the definitions of work and school by including the common decision to combine work and school; and the Full-time vs. Part-time Grouping eliminates the assumption that working part-time and full-time represents the same activity of working.

Furthermore, the three activity groupings determine the outcome measures for the analysis. For the multivariate regression analysis, the outcome measures are the accumulated number of months spent in each of the activities. For the dynamic semi-Markov chain modeling, they are the states of the semi-Markov chains.[9]

REGRESSION MODELING SCHEME

To answer the research questions outlined in Chapter 2, multivariate and univariate regression analyses are conducted to test various hypotheses. The analysis consists of both interpreting regression coefficients and interaction terms as well as comparing the change of coefficients across a basic and enhanced model.

To answer whether immigrants school-to-work experience are distinct from natives, univariate regression models of various school-to-work measures of accumulated months spent in an activity are run on immigrant status to test the (raw) influence of immigrant status on the various school-to-work decisions. To understand if immigrant school-to-work decisions differ by their length of stay in the United States and their country of origin, multivariate regression models of the outcome measures on years in the United States (using dummy variables for one to five years, six to ten years, and a reference group of over ten years) and on country of origin (using a dummy variable for Mexico, Central America, Europe/Canada, Africa/Caribbean/Jamaica, and Asia) test the influence of these specific, unique immigrant characteristics.

Four series of multivariate regression models using the three immigrant specifications, immigrant dummy, years in the United States, and country of origin, as well as a combined immigrant specification using both years in the United States and country of origin were constructed with non-immigrant specific observables, such as race, academic achievement, or parent's education. The coefficients on the respective immigrant variables were interpreted to test whether the observables explained the respective immigrant effect on the various school-to-work outcomes measures.

Moreover the four series of immigrant multivariate regression models were also constructed with controls for family characteristics, race, academic preparation, and attitudes toward work and school. The individual and family characteristic variables were collected in 1980 and therefore are not endogenous to the decisions the individual is making during their school-to-work transition. Then variables pertaining to either region, high school characteristics, or labor market/post-secondary opportunity characteristics were added to the model with the controls to test whether the characteristics of these different environments explained the immigrant differences in school-to-work activities. The high school characteristics tested were high school drop out rate, total enrollment, average district spending per pupil, and percent of non-English speakers. The labor market/post-secondary opportunity characteristic variables were the miles from the high school to the closest community or Junior College, from a vocational or business school, or from a four-year college or university, SMSA unemployment rate for 1980 and 1982, the SMSA average hourly manufacturing wage for 1980, 1981, and 1982, as well as, the SMSA wage growth from 80 to 81 and 81 to 82.

---

[9] Various constraints, primarily based on sample sizes, do not allow for dynamic semi-Markov chain modeling of the combined activity or part-vs. full-time groupings.

Analyzing whether known school-to-work disparities are due to an "immigrant effect" included various steps. To determine which family and individual characteristics are particularly influential or disproportional among immigrants, a multivariate regression containing the family and individual characteristics, such as race or academic achievement, (the basic model) is compared to the same model with an immigrant specification (the enhanced model). The best immigrant specification included both variables for years in the United States and country of origin. Specifically, it is judged whether the coefficients of the regressor(s) in the basic model change as a result of the additional immigrant specification variables. This approach is used to understand the effect of being an immigrant on the coefficient of such characteristics as race and socio-economic status. In these cases, the basic model only contains the respective variables to be tested, i.e. either the race dummies or the socio-economic status variables. The next step also utilizes the comparison of a basic and enhanced regression model. But in these cases the basic model contains a set of controls and the variable of interest, while the enhanced model contains the controls, the immigrant specification, and the variable of interest. The coefficient(s) on the variable(s) of interest are also checked to see whether there is a specific immigrant effect on the variable(s) of interest, even controlling for observables. This series of regressions indicate whether there is an immigrant effect on specific individual characteristics or external environment conditions.

To determine at what ages differences occur and with what probability the school-to-work transition decisions are made, dynamic semi-Markov chain models with covariates, i.e. logistic regression models of the decisions involved in school-to-work transition, are built to compute time to an event and percentage of people experiencing an event. The dynamic modeling methodology is explained in detail in the next section. When computing time to an event or percentage of people experiencing an event (by age or by time since an event), monthly hazard rates are computed.[10] The hazard rates are then transformed back into the percentage of people experiencing (or not experiencing) the event as of a given age or time since an earlier event.[11] These models isolate the influence of desired variables as well as identify in which of the transitions differences occur.

DYNAMIC SEMI-MARKOV CHAIN MODEL METHODOLOGY

The sample consists only of individuals with continuous, i.e. complete, employment histories. To be in the sample, an individual must have left school after January 1980, when the retrospective employment and work histories begin. Individuals contribute months to the sample until they miss an interview; 730 individuals have less than full employment histories and have employment histories which cover the time from June 1980 until February 84, the time of the second follow-up.

To understand the relation between the dimensions of the labor market experience, a simple three state model is specified, corresponding to the Full-Time Activity Grouping.[12] The Full-Time Activity model is depicted in Figure 3.1. It is a three state -- i.e. work, school, non-employed (plus an initial state) -- semi-Markov chain model. Non-employed, rather than unemployment is used to emphasize that this state includes not only those unemployed (those actively looking for work) but also those who are out of the labor force 'milling around.'[13]

---

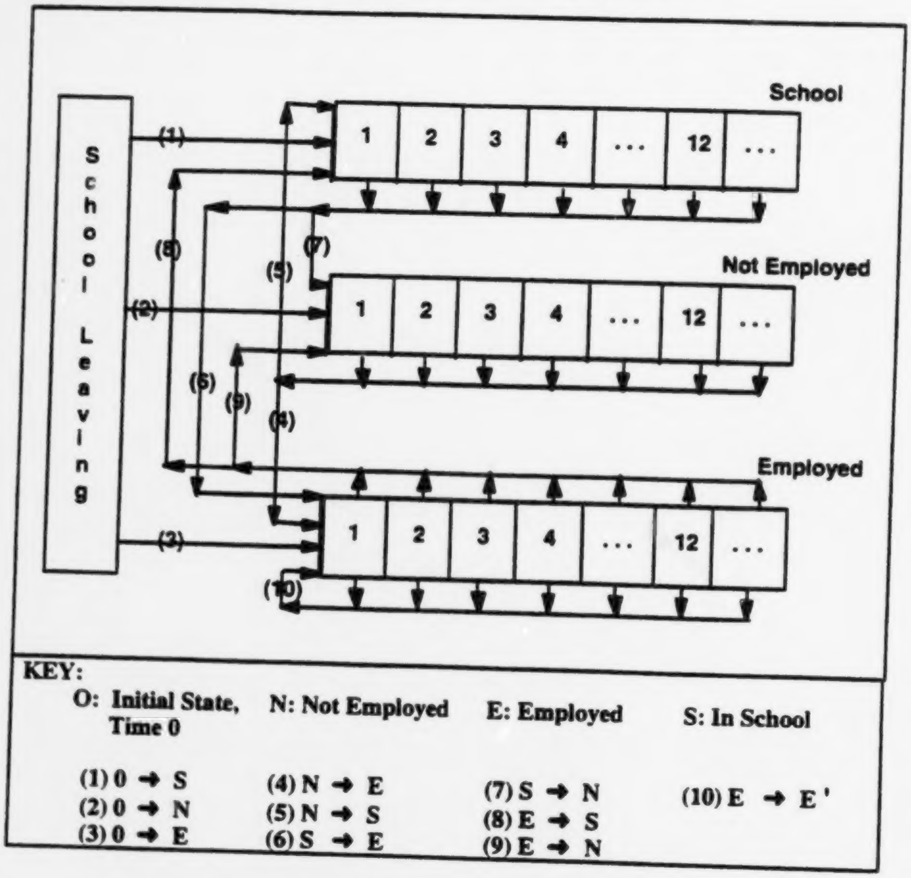
[10] The hazard rate defines, for all people who we observe at age A and again at age A+1 (where age is measured in years based on birth month), the probability of a given event occurring (i.e. entering a new job) given that the event has not already occurred before age A.

[11] The probability of the event not happening through age A is the product of the hazards of the event not happening at each age in months up to age A.

[12] The low number of transitions from certain state to others in the Full- vs. Part-time Activity grouping, such as, from 'school only' to 'part-time work', disallow dynamic modeling of the Full- vs. Part-time Grouping.

[13] A simpler two-state semi-Markov Chain model to determine the timing of school-to-work choices was first constructed by Jacob Klerman and Lynn Karoly. Refer to Klerman J. and Karoly L. Long Jobs AND Lots of Jobs? or their The Transition to Stable Employment: The Experience of U.S. Youth in their Early Labor Market Experience.

By the design of the sample, all sample individuals are observed when they leave school at high school graduation and potentially enter the labor market. On leaving (the initial state), they make an initial transition to either post-secondary school (represented by the first bar), non-employment (represented by the middle bar) or employment (represented by the lower bar). These states are abbreviated as O (initial state), S (post-secondary school state), N (non-employment), and E (employment).



KEY:

O: Initial State, Time 0	N: Not Employed	E: Employed	S: In School
(1) 0 → S	(4) N → E	(7) S → N	(10) E → E '
(2) 0 → N	(5) N → S	(8) E → S	
(3) 0 → E	(6) S → E	(9) E → N	

Figure 3.1: Schematic for Three State Semi-Markov Model

The process is semi-Markov in that the probability of leaving the state is a function of time in the state (the standard hazard modeling approach). This is represented schematically by the numbering of the cells in the upper, middle, and lower bars. The probability of a state is also a function of the worker's age and immigrant status. Specifically, time is measured in months. Any part of a month reported working is coded as working.

Formally, there are three possible transitions for someone who is currently non-employed (N) for duration, d.:

$$N \to N \qquad P[N_{t+1}(d+1)/N_t(d)] = 1 - h_N(d,A,I)$$

$$N \to E \qquad P[E_{t+1}(1)/N_t(d)] = \ell(d,A,I,X)h_N(d,A,I)$$

$$N \to S \qquad P[S_{t+1}(1)/N_t(d)] = \{1 - \ell(d,A,I,X)\}h_N(d,A,I)$$

staying non-employed (so duration increases by one month), transiting to employment, or enrolling post-secondary education (in both of these cases duration returns to one). The t subscript refers to calendar time. The h_N function is to be estimated. It is the hazard for leaving non-employment conditional on time spent non-employed; it is allowed to vary with age, A, and immigrant status, I. On leaving unemployment individuals have a binary choice of beginning a job or enrolling in post-secondary education. The probability of beginning a new job, ℓ, and the probability of enrolling in post-secondary education, $1-\ell$, is a function of time in non employment (d) age (A), and immigrant status(I).

There are three possible transitions for someone who is currently enrolled in post-secondary education (S), for duration, d.:

$$S \to S \qquad P[S_{t+1}(d+1)/S_t(d)] = 1 - h_S(d,A,I)$$

$$S \to E \qquad P[E_{t+1}(1)/S_t(d)] = m(d,A,I,X)h_S(d,A,I)$$

$$S \to N \qquad P[N_{t+1}(1)/S_t(d)] = \{1 - m(d,A,I,X)\}h_S(d,A,I)$$

staying in school (so duration increases by one month), entering into employment or non-employment (in both cases duration returns to one). The h_S function is to be estimated and it is the hazard for leaving post-secondary schooling conditional on the time spent in post-secondary education (d); it is allowed to vary with age, A, and immigrant status, I. On leaving post-secondary education, students have a binary choice of beginning a job or entering non-employment. The probability of entering employment, m, is a function of time in post-secondary schooling, age, and immigrant status.

Finally, there are four possible transitions for someone who is currently employed (E), for duration, d.:

$$E \to E \qquad P[E_{t+1}(d+1)/E_t(d)) = 1 - h_E(d,A,I)]$$

$$E \to E' \qquad P[E_{t+1}(1)/E_t(d)] = q(d,A,I,X)h_E(d,A,I)$$

$$E \to S \qquad P[S_{t+1}(1)/E_t(d)] = \{1 - r(d,A,I,X)\}[1 - q(d,A,I,X)]h_E(d,A,I)$$

$$E \to N \qquad P[N_{t+1}(1)/E_t(d)] = r(d,A,I,X)\{1 - q(d,A,I,X)\}h_E(d,A,I)$$

staying employed with given employer (so duration increases by one month), starting a new job, entering non-employment, and enrolling in post-secondary education (in all three cases duration returns to one). The h_E function is to be estimated and is the hazard for leaving employment with a given employer, conditional on time spent employed (d); it is allowed to vary with age, A, and immigrant status, I. On leaving employment with a given employer, workers have a choice of beginning a new job or not. The probability of entering a new job, q, is a function of time on old job , age, and immigrant status. If they choose to not enter a new job, they face two choices: entering post-secondary education or non-employment. The probability of entering post-secondary education, given the choice of not entering a new job, $1-r$, is a function of the duration of time spent in the old job, age, and immigrant status.

The binary decision trees with their associated hazard rates and probabilities for making a transition decision in any given month are illustrated in Figure 3.2.

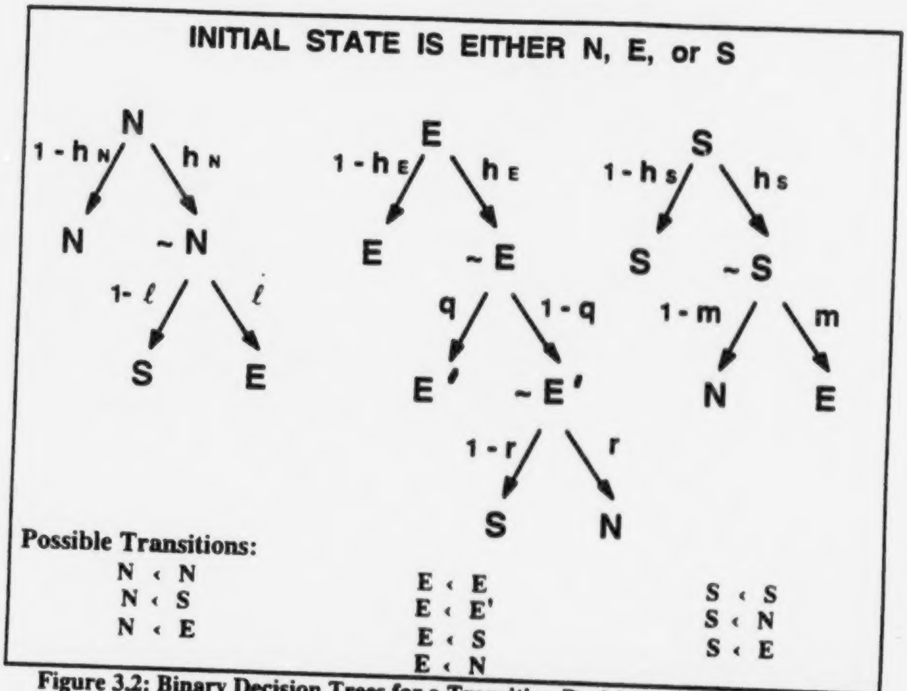


Figure 3.2: Binary Decision Trees for a Transition Decision in any Given Month

To use all of the collected data when computing percentage of people experiencing an event (by age), the hazard rates for h_N, h_S , and h_E are computed for each month. The hazard rate defines, for all people observed at age *A* and again at *A* + *1* (where age is measured in calendar years based on birthdate), the probability of a given event occurring (i.e., changing to a new job) given that the event has not already occurred before age *A*. Then the hazard rates are transformed back into the percentage of people experiencing (or not experiencing) the event as of a given age (where the probability of the event not happening at each age up to age *A*).

4. DO IMMIGRANTS FOLLOW DIFFERENT SCHOOL-TO-WORK TRANSITION PATHS?

This chapter discusses whether immigrants follow different school-to-work paths than natives. The sample is restricted to youth who initially leave school as high school graduates or with some post-secondary education. Four different aspects of the school-to-work transition will be presented :

- experience in school-to-work activities,
- labor force participation,
- returning to post-secondary school,
- transition probabilities

Experience in school-to-work activities

First, this chapter presents whether immigrants' and natives' patterns differ according to their average accumulated months spent pursuing post-secondary education, employment, or non-employment. The different definitional aspects of these three main activities are based on the outcomes outlined in the three school-to-work groupings: Full-time Activity, Full vs. Part -time Work, and Combined vs. Single Activity Grouping (Refer to Chapter 3 and Figure C.1 - Figure C.3). This analysis will indicate how immigrants and natives spend their time during their first years after high school.

Labor force participation

Second, a picture of static labor force participation for both immigrants and natives is presented from the ages of 18 to 24.[14] Since much of the school-to-work literature is static, this analysis provides a basis for comparison against other empirical findings.[15] In addition, the static labor force status for immigrants and natives from age 18 to 24 documents whether the labor force participation of immigrants and natives differs at given ages.

---

[14] Labor force participation is determined as of the month an individual turns a given age.

[15] The longitudinal schooling and employment event histories (for a given individual) are utilized in the dynamic analysis of time spent in varying school-to-work activities and the probabilities of entering and leaving these various activities. These analyses are found in the first and last section of this chapter as well as in Chapter 6, 7, & 8.

Return to post-secondary school

Third, the return pattern for both immigrant and natives is compared according to four aspects: do youth return, and if so, when do they return, how long is it before they return, and, do they attain a post-secondary degree. Returning to school and attaining a degree are identified by contrasting an individual's educational attainment when they initially leave school and enter the workforce against their educational attainment later in their career (in this case as of July 1986). In addition, the timing of the return to school and the duration of time spent out of school are calculated and compared. All of these measures address the differences in the patterns of returning to school between immigrants and natives.

Transition Probabilities

Finally, monthly probabilities of moving among school, work, and non-employment are calculated for immigrants and native. Dynamic semi-Markov chain models of labor force activities are used to calculate the hazard rates of leaving employment, leaving post-secondary education, and leaving non-employment, conditional on being in the given state the month prior. In addition, the probabilities of entering a new job, conditional on leaving employment, and of moving between the states of employment, non-employment, and schooling according to age are investigated. All of these probabilities are then analyzed across immigrants and natives from age 18 to 24 to understand whether they have different transition rates at given ages.

EXPERIENCE IN SCHOOL-TO-WORK ACTIVITIES

Immigrant patterns of accumulated time spent in given school-to-work activities differ from natives. Table 4.1 reports the regression model results. The estimated coefficient on immigrant status is the difference between the immigrant and native mean of accumulated months spent in the given activity. The intercept is the mean number of accumulated months that natives spend in the given activity.

Table 4.1: Differences in Mean Accumulated Months Spent During the School-to-Work Transition in Given Activities for Immigrants and Natives

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Immigrant	**5.5** (7.46)	**-6.5** (-7.41)	**1.9** (2.74)	**-5.4** (-5.71)	**4.2** (6.25)	**-7.4** (-8.37)	**2.2** (4.85)	**-1.3** (-4.28)	**-0.9** (-2.00)
Intercept: Native	12.7 (59.2)	40.3 (157.3)	13.3 (65.7)	32.2 (116.6)	13.1 (67.3)	33.1 (128.7)	6.7 (50.3)	4.2 (45.8)	8.2 (58.4)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

During the transition from school into the workforce, youth decide between work, school, or non-employment as full-time activities. As the coefficients in Table 4.1 indicate, immigrants attend 5.5 months more of post-secondary education as a full-time activity during their first six years after high school than natives. Immigrants spend 18.2 months in post-secondary education, natives spend 12.7 months. This is a six month or two academic semester difference over the six year time frame covered by the survey. In addition, natives work as a full-time activity 6.5 months more than immigrants. Natives work 40.3 months and immigrants work 33.8 months. Also immigrants are unemployed or not in the labor force slightly less than natives: 1.3 and 0.9 months less, respectively.

Natives are unemployed 4.2 months and not in the labor force 8.2 months, while immigrants are unemployed 2.9 months and are not in the labor force 7.3 months. As a trade-off between the full-time activities of school, work, and non-employment, immigrants attend post-secondary education, while natives work and spend slightly more time non-employed.

Youth also decide to work without attending post-secondary school, attend school as a single activity, or to combine work with full- or part-time work. Immigrants and natives follow different paths according to these activities. Immigrants spend 4.2 more months than natives, roughly equivalent to one academic semester, combining post-secondary education with work. Immigrants combine work and school 17.3 months and natives 13.1 months. Immigrants also spend 2.2 more months than natives attending post-secondary education as a single activity.: immigrants spend 8.9 months in school only and natives spend 6.7 months. In addition, natives spend 7.4 more months than immigrants working as their sole activity: natives work as their only activity 33.1 months, while immigrants work 25.7 months. Therefore, in terms of combining school-to-work activities or not, immigrants a) combine work with school and b) attend post-secondary school as a single activity. Natives work as a sole activity.

Furthermore, youth work both full-time and part-time, regardless of whether they combine work with school or not. Natives work in full-time jobs 5.4 more months than immigrants: natives spend 32.2 months in full-time employment and immigrants spend 26.8 months in full-time employment. On the other hand, immigrants work 1.9 more months than natives in part-time jobs: immigrants work part-time 14.2 months and natives work part-time 13.3 months. Natives work more in full-time jobs and immigrants in part-time employment.

The most striking difference among native and immigrant school-to-work patterns are the additional months immigrants spend in post-secondary education contrasted with the additional months that natives spend in employment, primarily full-time employment as a sole activity. Immigrants spend 18 months attending post-secondary education compared to 12 months for natives, whereas natives work 33 months compared to 26 months for immigrants. The trade-off for immigrants and natives translates into roughly a six month difference between 1) attending post-secondary school, partially combined with part-time work, as an immigrant and 2) working full-time, primarily as a single activity as a native. Immigrants and natives only slightly differ in terms of non-employment.

These trade-offs can also be depicted by dividing the average number of months spent in each activity by the number of months covered by the survey, i.e. July 1980 through July 1986, which yields the percentage of accumulated time spent in each activity. Together the percentages for each of the activities represent the time frame covered. Figure 4.1 depicts the average percent of time that immigrant and native youth spend in the given school-to-work activities. These graphs restate that during the school-to-work transition, foreign-born youth spend more time than natives a) attending post-secondary education and b) combining part-time work with post-secondary education. Native youth spend more time than immigrants working full-time, primarily as their only activity. Immigrants and natives hold jobs in different proportions: natives marginally hold more full-time jobs and immigrants more part-time jobs. Moreover, immigrants tend to transition into the workforce without discontinuing their pursuit of post-secondary education, while natives tend to purse either work or school singly.

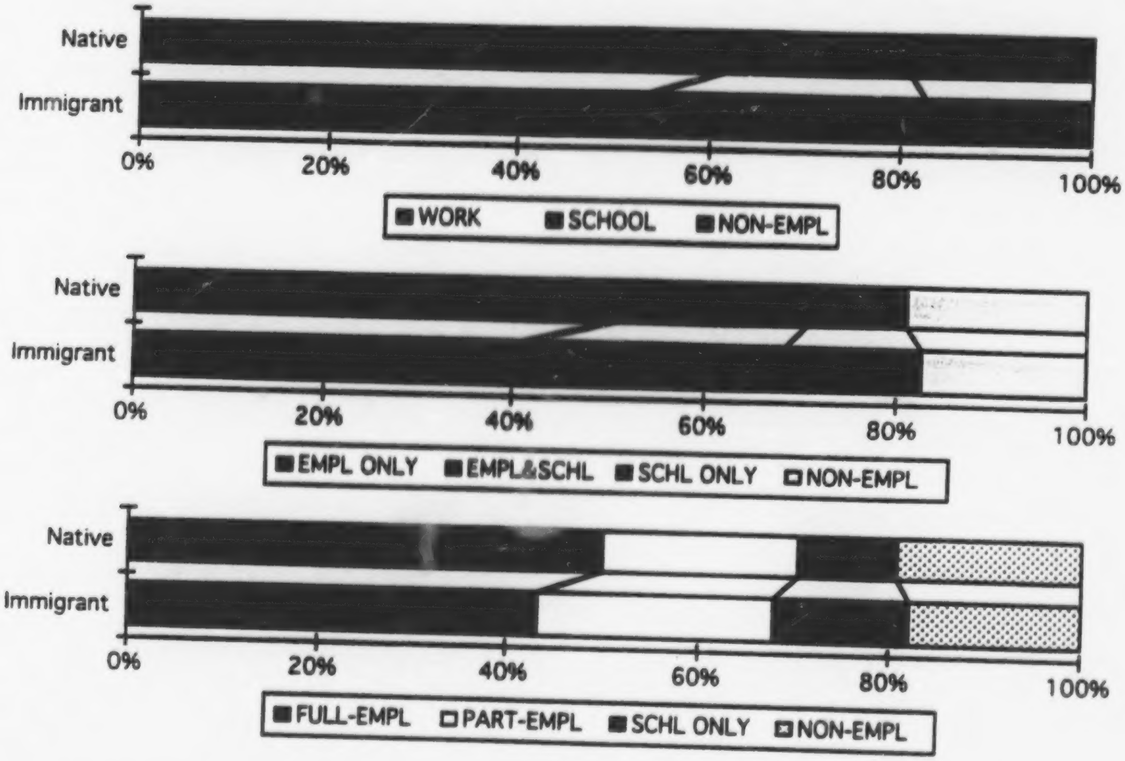


Figure 4.1: Percentage of Time Immigrants and Natives Spent During Their Transition from School-to-Work in Given Activities from July 1980 until July 1986

Therefore, the perception and limited evidence[16] that immigrants work less than natives is not false, but it is also not the full story. Even though immigrants spend less time working, either as a full-time activity, full-time employment, or as a single activity, they do not spend this time unproductively. Instead immigrants spend more of their time in post-secondary education as a single activity or combined with work.

---

[16] A study by the Latino Urban Policy Agenda indicates that US-born Latinos fare consistently better than their foreign-born counterparts in their participation in the workforce (LA Times, 5-30-96)

LABOR FORCE PARTICIPATION

Besides assessing the different allocations of time spent among work, school, and non-employment for immigrants and natives, the transition from school-to-work can also be understood by analyzing the distribution of activities at a given age. This analysis differentiates four mutually exclusive activities:

- Working full time (35 or more hours per week)[17]
- Attending Post-secondary Education (and not working full time)
- Working part-time (and not attending school)
- Neither working nor attending school

For this analysis, the static activity status is determined as of subject's birthday month, rather than as an average over the entire year the person was a given age. As a result, the static picture of the employment activities of immigrant and native youth from age 18 to 24 can be illustrated. Static labor force participation is first presented for all youth (Figure 4.2) and then for both immigrants and natives (Figure 4.3).

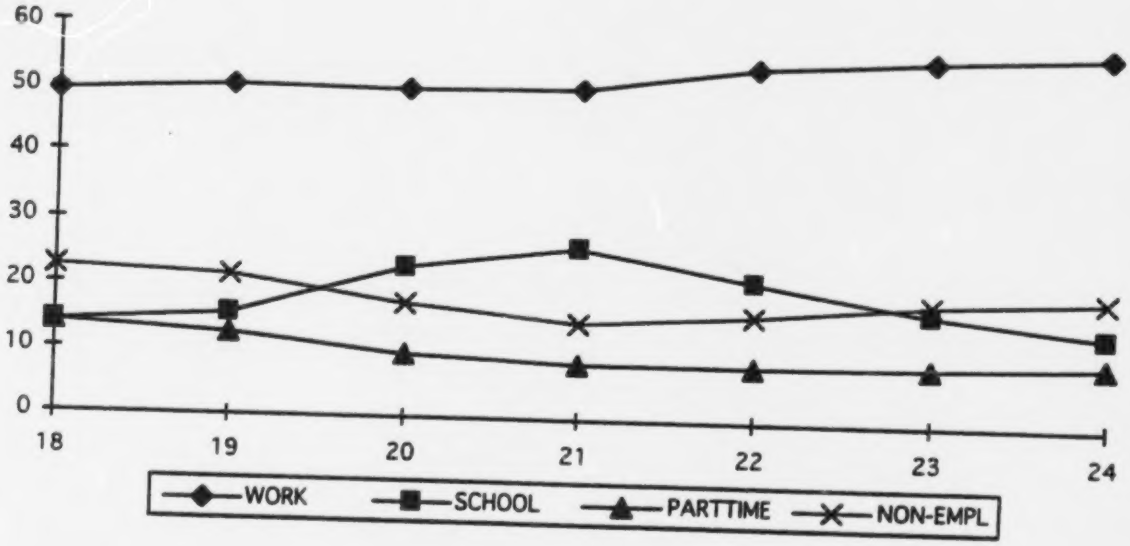


Figure 4.2: Static Labor Force Status for Youth who Left School as High School Graduates or With Some Post-Secondary Education by Age

---

[17] With these definitions, youth working 35 or more hours a week are classified as full-time workers even if they attend school.

As they mature, youth spend time in different school-to-work activities. Figure 4.2 graphically presents the percentage of youth[18] at a given age who are either working, in post-secondary school, part-time employment, or non-employment as defined above. The trends indicate that as youth reach their 21st birthday, the time they spend in part-time employment and non-employment decreases, while their time spent working and attending post-secondary school increases. At the age of 21, a quarter (23.3%) of youth are neither working full-time, nor in school.[19] After the age of 21, these youth tend to attend school less and work more with only a small increase in part-time employment and non-employment. These percentages of non-employment and part-time work (but not combined with school) are consistent with Osterman's (1980) view of youth 'hanging out' in the labor force. 'Hanging out' is a static measure of time spent unproductively that is different than 'milling around', a dynamic measure of spending time unproductively, i.e. moving between employment, unemployment, and not being in the labor force. These static trends support evidence of youth 'hanging out' prior to age of 21, but not thereafter.[20]

The static labor force picture also indicates that many youth return to school between the ages of 19 and 21, but then leave school and begin work after age 21. This trend is illustrated by the increasing percent those 20 years and younger in school, and by the simultaneous decrease in the percent in school and the increase in the percent working after age 20. At the age of 21, one quarter (26.2%) of youth are still enrolled in a post-secondary educational institution.[21]

The static labor force picture for immigrants and natives reveals a few interesting facts (Figure 4.3, Panel A and Panel B). At all ages between 18 and 24, more natives work than immigrants. At age 18, roughly one half of natives (49.7 %) are working. In contrast 45.3 percent of immigrants are working -- roughly a 5 percentage point difference. By the age of 24, immigrants and natives differ by roughly 8 percentage points: 54.7 percent of natives and 46.3 percent immigrants. A slightly increasing gap exits between the percent of immigrants and natives working during their early career. As found earlier, natives tend to work more than natives during their transition from school-to-work.

---

[18] Remember that the youth analyzed here are only those who initially left school as high school graduates or with some post-secondary schooling.

[19] Additional, analyses not shown here were conducted for females and males separately. One third (29.9%) of females and 15 percent of males are neither working full-time nor in school.

[20] The evidence also shows that it is primarily females who are 'hanging out' in the labor force before the age of 21.

[21] Those in post-secondary education are equally female and male. At the age of 21, 26.7 percent of males and 25.7 percent of females who initially left school as high school graduates or with some post-secondary education are in school.

Also in support of the trends found earlier, there is an increasing gap between immigrant and native post-secondary school attendance patterns from 7 percentage points at the age of 19 to 13 percentage points at age 24. At age 19, 22.5 percent of immigrants were in school, while only 15.5 percent of natives were in post-secondary schooling. Coupled with the other evidence that natives tend to work more than immigrants during these same ages, both of these trends underscore the preferences of immigrants and natives in their early labor market career: immigrants tend to choose post-secondary education over working, while natives tend to work.

The static labor force participation patterns also reveal that there is basically no difference in the percent of immigrants and natives engaging in part-time employment, except at the ages of 22 and 23 where the percent of immigrants drops by approximately 2 to 3 percent. It could be inferred that this drop is a result of immigrants who leave post-secondary school at these ages, and switch from part-time employment in connection with post-secondary school into full-time employment. Furthermore, the rates of non-employment for immigrants and natives are similar. More natives are in non-employment than immigrants; the gap is roughly two percentage points. These trends in non-employment and part-time employment support the evidence found earlier in this analysis and Osterman's (1980) evidence that youth 'hang out' in their early labor market careers. At the age of 21, one quarter (23.5%) of natives and one fifth (19.7%) of immigrants are 'hanging out' in the labor force.

Taken together the trends in this static analysis reiterate the trends found in the last section on the accumulated number of months immigrants and natives spend in a given school-to-work activity. Although natives work more than immigrants during their early careers, this difference does not translate into immigrant youth 'milling around' more in the labor force. To the contrary, immigrants spend more time in post-secondary education and less time non-employed compared to their native counterparts. Moreover, these differences are persistent across the early labor market career, i.e. across the ages of 18 to 24.[22]

---

[22] Other evidence of these static labor force trends was investigated by Klerman and Karoly (1995) for white male high school graduates using the National Longitudinal Survey of Youth (NLSY). Appendix C discusses the static labor force status for white males who left school as high school graduates by age from the HSB and NLSY.

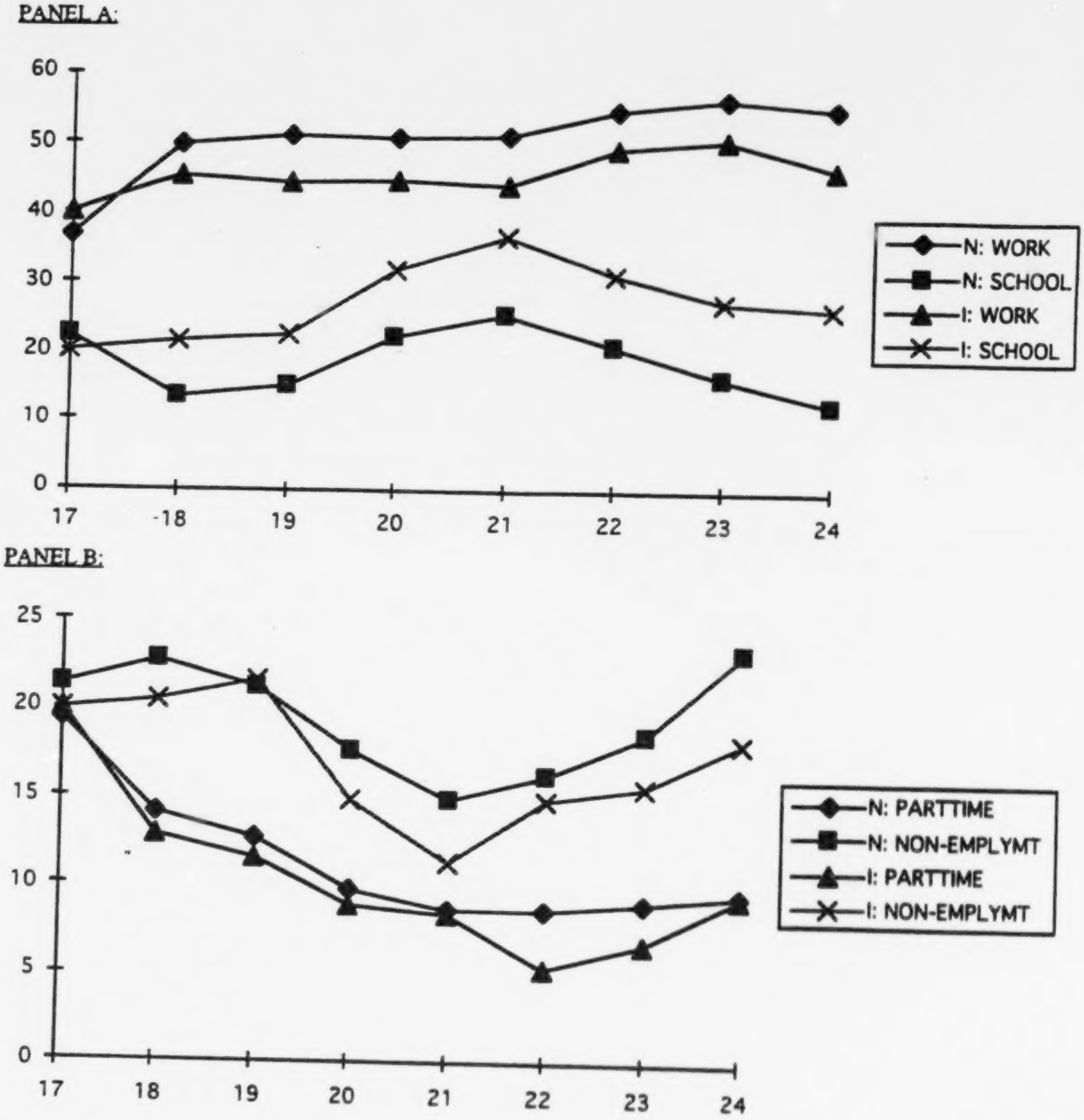


Figure 4.3: Static Labor Force Status for Immigrants (I) and Natives (N) who Left School as High School Graduates or With Some Post-Secondary Education by Age

RETURNING TO SCHOOL AND ATTAINING POST-SECONDARY DEGREES

Given the persistent differences across immigrant and native youth during their early labor market career in terms of attending post-secondary education (as found in the previous two sections), a series of questions arise:

- Do immigrants and natives return to school at the same rate?
- For those who return, when do immigrants and natives return to school, and do they spend the same length of time out of school before returning?
- For those who return, do immigrants and natives attain post-secondary degrees at the same rate?

The following section addresses these questions.

The Rate of Returning to School and Attaining a Degree

To return to school, individuals first had to leave school and enter the labor force.[23] In this analysis, an individual is considered to have left school as of the first time they were not in school as a primary activity for longer than the typical school break, i.e. the summer.[24] Furthermore, an individual is considered to have returned to school if they: 1) enrolled in school as their primary activity for at least one month after the month in which they initially left school, as well as, 2) stayed out for at least three non-summer months. At the time an individual initially leaves school, their educational attainment is not necessarily their final degree attained.[25] Therefore, each individual is assigned a school-leaving group (SLG) based on their degree attainment at the time they initially leave school and enter the workforce.[26] A unique SLG is able to be assigned because with longitudinal data the date at which an individual initially leaves school is obtainable. The assigned SLG does not, therefore, indicate the final degree attained (as of July 1986). For example, if an individual returns to school, either by combining full-time or part-time work with schooling or by attending school, after a break in their education, then their SLG and final educational attainment will differ. Contrasting the assigned SLG with the final educational attainment indicates who returned to school and what degree they attained, if any. Table 4.2 reports the occurrence of returning to school and attaining a degree for school leavers who left school as high school graduates or with some post-secondary education.

---

[23] Appendix A discusses at length the definition of school, the decision to leave school and begin work as a full-time activity, as well as, a school-leaving group (SLG).

[24] 'School leaving' therefore occurs when an activity other than school attendance (i.e. full-time work with or without simultaneous school attendance) takes place for at least three non-summer months.

[25] Degree attainment is indicated by an individual's educational attainment as of the third survey wave, July 1986.

[26] The categories and definition of the school-leaving groups are in Appendix A. Table 4.2 reports only the rate of return and rate of degree attainment for two school-leaving groups: high school graduates and some post-secondary education. The sample sizes for the other SLGs are too small to analyze.

Table 4.2: Percent who Returned to School and who Attained a Degree (By School Leaving Group & Immigrant Status)

SCHOOL LEAVING GROUP:		TOTAL	RETURNED TO SCHOOL	ATTAINED A DEGREE**
		N	%	%
High School Graduates	**All**	**7,046**	**51.6**	**26.4**
	Native	6,460	50.8	25.9
	Immigrant	586	60.2	32.0
Some Post-Secondary Education	**All**	**1,339**	**51.5**	**70.5**
	Native	1,219	51.4	71.5
	Immigrant	120	52.5	60.8
TOTAL:		**9,078**	**49.7**	**31.7**

NOTE: ** A degree is defined as a 2 or 3 year vocational education, or academic degree, a BA from a four year institution.

For the 'some post-secondary education' school leaving group, as reported in Table 4.2, note the higher percentages for those 'who attained a degree' compared to those 'who returned to school'. This is a result of individuals who are simultaneously working full-time and attending school, which according to this analysis is not returning to school as a primary activity.

Overall, half (50.3%) of youth, regardless of school leaving group, never return to school as their main activity. Returning to school does not vary according to how much education a student had prior to leaving school for the first time. Those with high school degrees and those who initially leave with some post-secondary education (but not a degree) have the same return to school rate: 51 percent. This is the "half" who continue onto college in comparison to the "forgotten half" who are non-college bound, referred to earlier in the introduction (Apling, 1992).

The percentages for attaining a degree once returning to school indicate a different pattern. For those who first leave school with a high school diploma one quarter (26.4 %) continue on and attain a post-secondary degree. However, those who initially leave school and enter the workforce with some post-secondary education (but no degree) have a much higher attainment rate: 70.5 percent. This indicates that continuing straight onto college after high school before entering the labor force increases the probability of attaining a degree, even if some time off is taken during degree attainment.

Moreover, the return and degree attainment rates differ between immigrant and native youth.[27] Immigrants who leave school with only a high school degree tend to have a higher return rate, 60.2 percent for immigrants compared to 50.8 percent for natives. However, immigrants have a fairly similar return rate to natives if they initially leave school with some post-secondary education: 52.5 percent for immigrants compared to 51.4 percent for natives. Immigrants who leave with only a high school degree return to school more often, but attain their desired degrees in the same proportion as natives – half of those who return. Half of high school graduates return to school and one quarter (i.e. half of the half who returned) attain degrees. However, 60 percent of immigrants return and 32 percent (i.e. half (53%) of the 60 percent who returned) attain degrees. Based on this analysis, immigrant and native high school graduate school leavers, who return to school, therefore attain degrees at roughly the same proportion, i.e. half of those who return. However, immigrants do tend to return to school more often. Thus, the higher rate of returning to school also results in immigrants spending more time during their school-to-work transitions in school.

Interestingly, the same pattern does not hold for those who leave with some post secondary education. There is not a significant difference between immigrants and natives who leave with some post secondary education and return to school. They both return to school at roughly the same rate: 51.5 percent for natives and 52.5 percent for immigrants. However, natives who leave with some post secondary education tend to have higher degree attainment: 71 percent for natives compared to 60 percent for immigrants. Thus, those immigrants who leave with some post secondary education may have additional barriers to attaining a degree, but not to returning to school.

---

[27] However, the distribution of school leaving groups is similar for immigrants and natives (refer to Table 5.6), with the largest difference that 15.7% of immigrants leave school with some post-secondary education and only 14.7% of natives leave with some post secondary education.

Timing of the Return to School and the Duration of Time Spent Out of School

Besides the overall rates of returning to school, the timing of the return and the duration of time spent out of school varies for immigrants and natives. Both of these aspects of returning to school are shown in Table 4.3. According to this analysis, of those who return to school, the mean month of return is August 1982. One quarter of those who return go back to school by May 1981 and three-fourths return by September 1983. Immigrants tend to return to school on average two months before natives: immigrants return in June 1982 rather than August 1982, i.e. immigrants return to post-secondary during the summer, which could be tied to immigrants' higher enrollment in remediary and English as a Second Language classes.

Table 4.3: Month of Return & Number of Months Spent Out of School

		RETURNED TO SCHOOL			NUMBER OF MONTHS OUT OF SCHOOL			
	N	25%	MEAN	75%	25%	MEAN	75%	Mode
ALL	4,509	May 81	Aug 82	Sept 83	4	19.0	26	3
NATIVES	4,078	May 80	Aug 82	Sept 83	4	19.2	26	3
IMMIGRANTS	431	May 80	June 82	Jan 83	4	15.8	26	3

The duration of time, however, spent out of school, depends not only on the return to school date but also on the date when the individual initially left school and stayed out for at least three non summer months, i.e. their school leave begin date (SLB).[28] Of those who do return to school, one quarter return after spending only four months in the workforce and three-fourths return after 26 months out of school. The average duration of time spent out of school is 19 months. The most common duration of time spent out of school before returning is three months (See Table 4.3 and Table A.3). The common month of returning to post-secondary education is June or July; thus, the months spent out of school are primarily March, April, and May. Natives on average spend 3.4 months longer out of school before returning: natives spend 19.2 months, while immigrants spend 14.8 months out of school before returning.

The data also show that these dates vary considerably (as would be expected) by school leaving group. Table 5.4 shows the variation of the return to school date and the duration out of school by school leaving group.

---

[28] The duration of time spent out of school is the number of months between the month in which the individual initially left school (SLB) and the month in which they returned to school.

Note the means, 25th, and 75th percentiles in Table 4.3 and Table 4.4 are calculated only for those who returned to school and not for the entire sample.

Table 4.4: Month of Return & Number of Months Spent Out of School (By School Leaving Group & Immigrant Status)

SCHOOL LEAVING GROUP:		RETURN TO SCHOOL			NUMBER OF MONTHS OUT OF SCHOOL		
	N	25%	MEAN	75%	25%	MEAN	75%
High School Graduate	3,640	April 81	June 82	Sept 82	4	19.7	26
Some Post-Secondary Education	690	Oct 81	June 83	Oct 84	4	16.7	23
2 /3 year Vocational or Academic degree	55	May 81	March 83	Sept 84	4	17.9	31
College Graduate	82	Oct 82	June 84	Jan 86	3	9.4	10
High School Graduate:							
Natives	3,287	April 81	June 82	Sept 82	4	19.9	26
Immigrants	353	May 81	March 82	Sept 82	4	16.3	26
Some Post-Secondary Education:							
Natives	627	Oct 81	June 83	Sept 84	4	16.8	23
Immigrants	63	Jan 82	May 83	Sept 85	5	14.8	21

From this table one should note that the month of return varies by school-leaving group, which is the educational attainment of an individual when they first left school and entered the labor force for at least three non-summer months. There is a negative relationship between a school leaver's amount of education when they initially leave school and the amount of time spent out of school before they return. High school graduate school leavers returned on average in June 1982, staying out an average of 19.7 months. School leaver with some post-secondary education returned in June of 1983, staying out of school for an average of 16.7 months. Those with a two or three year vocational or academic degree returned on average in March 1983, staying out an average of 17.9 months. College graduate school leavers returned on average in June 1984, staying out of school an average of 9.4 months.

The sample sizes are too small to analyze all these data by immigrant status. However, immigrant and native high school graduate school-leavers differ in the month they return to school. Immigrant high school graduates return in March of 1982 and natives in June 1983. Immigrant high school leavers return three months earlier, which is also reflected in the number of months spent out of the school before returning. Immigrant high school leavers spend 16.3 months out of school, while natives spend 19.9 months. Native high school graduate leavers spend three months longer out of school before returning.

Immigrant and native some post-secondary school leavers return to school in May and June 1983, respectively. However, native school leavers with some post-secondary education spend 16.8 months out of school, while immigrants of the same group spend 14.8 months out of school. The findings for both high school graduate and some post-secondary school leavers support the evidence found in earlier sections that immigrants attend more post-secondary school than natives.

These comparisons also indicate the large variation in timing and occurrence of returning to school across schooling groups, and the subtle differences across immigrant status. Primarily, immigrants return to school at a higher rate and spend less time in the labor force before returning to school at a post-secondary institution. This is confirmed by their higher average of accumulated months spent in post-secondary institutions or simultaneously combining post secondary schooling with work. Given these differences in activities across immigrants and natives, questions arises as to the age at which the different activities occur. The next section addresses the probability of entering the various school-to-work activities for youth from age 17 to 24.

TRANSITION PROBABILITIES

During the school-to-work transition, youth decide among employment, school, and labor force non-participation. For example, an individual who is employed has four possible transitions: 1) staying employed with a given employer, 2) starting a new job, 3) entering non-employment, and 4) enrolling in post-secondary education. Someone who is enrolled in post-secondary education has three possible transitions: 1) staying in school, 2) entering into non-employment, or 3) start working. Finally, youth who are non-employed have three possible transition choices: 1) staying non-employed, 2) enrolling in post-secondary education, or 3) start working. All of these decisions have a probability of occurring, conditional on their given state. (Refer to Figure 3.2 for an illustration of the binary decision trees with their associated hazard rates and probabilities for making these transition in any given month. Chapter 3 details the methodology)

Hazard rates are commonly used to understand these transitions, since a hazard rate is the probability of leaving a given state, conditional on being in that state.[29] The probabilities and hazard rates for moving among employment, post-secondary schooling, and labor force non-participation are also used to calculate the percentage of people experiencing an activity (i.e., by age or other characteristics).[30] These percentages are reported in the following sections, Figures 4.4 - 4.11, according to age 17 to 24 for youth[31] and by immigrant status. The first section discusses the probability of entering a new job conditional on employment, and hazard rates. Section two depicts probability of entering non-employment after employment or after post-secondary education. Section three shows probability of post-secondary education after non-employment or after employment, while Section four reports the probability of entering a job after non-employment or after post-secondary education.

---

[29] In chapter Three the methodology of semi-Markov chains was detailed. However, as a reminder, the process is semi-Markov in that the probability of leaving the state is a function of time in the state (the standard hazard modeling approach). The probability of a states is also a function of the worker's age and immigrant status. Specifically, time is measured in months. Any part of a month reported working is coded as working. Hazard rates are calculated from the semi-Markov chain model of the school-to-work process.

[30] To use all of the collected data when computing percentage of people experiencing an event (by age), the hazard rates for h_N, h_S, and h_E are computed for each month. The hazard rate defines, for all people observed at age A and again at $A + 1$ (where age is measured in calendar years based on birthdate), the probability of a given event occurring (i.e., changing to a new job) given that the event has not already occurred before age A. Then the hazard rates are transformed back into the percentage of people experiencing (or not experiencing) the event as of a given age (where the probability of the event not happening at each age up to age A).

[31] Note that these analyses include both men and women who have either initially left school with a high school degree or some post-secondary education. High school drop outs are therefore not included in these analyses and neither are college graduates who continued onto college and finished straight out of high school.

The Probability of Entering a New job Conditional on Employment and Hazard Rates

This section discusses the probabilities of leaving an activity or changing jobs. The prevalence of these four transitions indicate the extent of 'milling around' between a current job and other school-to-work activities: a new job, school, or non-employment. Figure 4.5, Panel A and B, indicates the percentage of youth aged 17 - 24 experiencing these transitions. The percentages are based on the probabilities of the transitions, conditional on holding a job. Specifically, Figure 4.5, Panel A, plots the percentages for the hazard rate of non-employment, h_N, the hazard of post-secondary education, h_S, and the hazard of employment, h_E, as a function of age. Figure 4.5, Panel B, plots the percentages of 17 -24 year olds moving from one job to a new job based on the probability of entering a new job, conditional on employment, q.

This analysis illustrates in Figure 4.5 Panel B that higher percentages of youth leave employment before the age of 20, but that after 20 they tend to stay employed longer, i.e. less youth leave employment. In addition, after the age of 20, more youth are moving directly into a new job, whereas before the age of 20, youth transition from employment more frequently into either school or non-employment. Approximately 60 percent of 21 year olds are changing jobs without an intermittent period of non-employment or schooling. However, by the age of 24, roughly three-fourths of youth are changing from an old job straight into a new job. Together these trends[32] illustrate that once youth reach the age of 20, job duration increases and intermittent periods of schooling or non-employment between jobs decreases. Similar evidence for white male high school graduates was found by Klerman and Karoly (1995).[33]

---

[32] These two transition probabilities are related since the hazard rate of employment is the first decision in 1) leaving employment to transition into a new job, or 2) leave employment and enter into non-employment, 3) or leave employment to attend post-secondary education. These last two probabilities are discussed in later chapters.

[33] Hazard rates and the probability of entering a new job were calculated for white male high school graduates from the National Longitudinal Survey of Youth by Klerman and Karoly (June 1994). The analysis differed in several ways. First, they did not allow the choice of attending post-secondary school to be an independent activity. Instead they included schooling with non-employment; thereby only having a simple two state model of employment and non-employment. Second, they pooled immigrants and natives in their analyses. However, for the while male high school population, they found that the probability of leaving both employment and non-employment decline with age. These trends coincide with the evidence

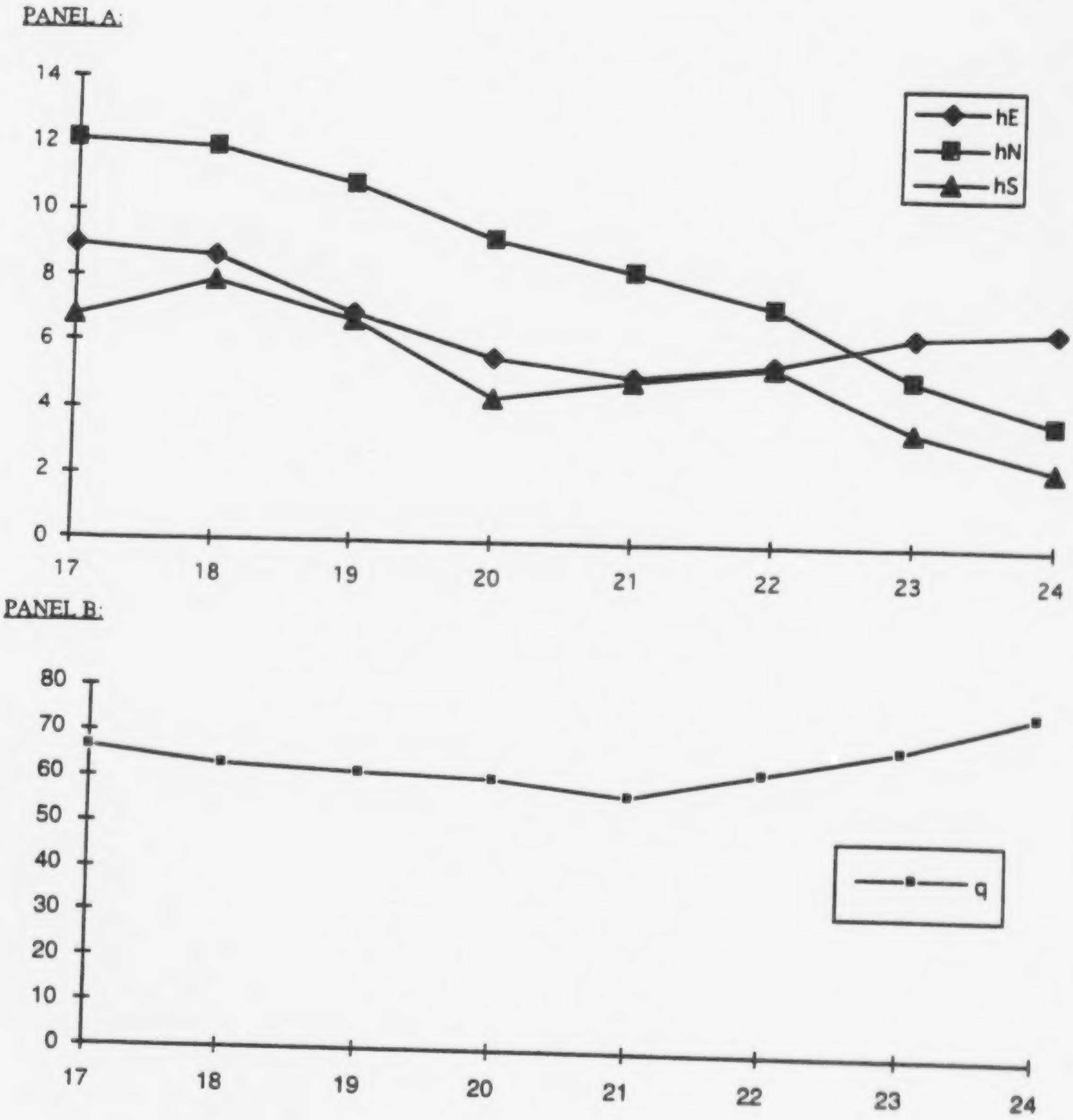


Figure 4.4: Probability of leaving Employment (hE), Non-employment (hN), and Post-Secondary Education (hS), as well as, the Probability of Entering a New Job (q)

---

found here and as replicated for while male high school graduates in Appendix B. The only difference in trends across HSB and NLSY is that conditional on leaving a job, Klerman and Karoly found that the probability of immediately entering into a new job increases with age (June 1994). The evidence from HSB differs slightly in that conditional on leaving a job, the probability of entering a new job increases monotonically only after the age of 21.

Furthermore, the probability of leaving non-employment and post-secondary education also steadily declines with age, indicating that fewer youth leave employment, school or non-employment as they mature. By age 24, youth, stay longer in their given activity. At age 19, 11 percent of youth are leaving non-employment and 7 percent of youth are leaving post-secondary schooling, whereas by age 24 approximately 5 percent of youth are leaving school and another 5 percent are leaving non-employment, conditional on being in non-employment.

Immigrants and natives do not appear to differ in terms of their hazard rates of employment or of non-employment (Figure 4.5, Panel A). Roughly two percentage points more immigrants at the ages of 18 through 24 tend to be leaving non-employment, but this difference is slight.

Immigrants and natives however do differ in their probability of leaving school. At age 17 and 18, three percentage points more of native high school graduates leave school. Between the ages of 20 and 23 natives with a high school degree or some post-secondary education tend to leave school more than natives: roughly two percentage points more natives leave than immigrants. (Figure 4.5, Panel B).

Together this indicates that natives 'mill around' more than immigrants between post-secondary school and either employment or non-employment, but leave jobs or non labor force participation at the same rates as immigrants. Hence, natives would accumulate less post-secondary schooling, which supports earlier evidence in this analysis concerning the post-secondary patterns of natives.

Figure 4.5 also shows that the probability of changing jobs, moving immediately from one job to another, is higher for immigrants between the ages of 18 to 24. The percentage of immigrants changing from one job to another declines until the age of 22 and then sharply increases from 60 percent of immigrants aged 22 to 83 percent of immigrants aged 24. Fewer natives change jobs at the age of 18 through 21, i.e. the decrease is less steep over time, with only 55 percent of natives aged 21 changing jobs. After age 21, there is a steady increase (although less steep than immigrants) in the percentage of natives changing jobs from 55 to 75 percent at age 24. Immigrants, therefore, 'mill around' more often than natives from employment to new employment. Immigrant youth have higher job turnover. Thus, although immigrant youth are accumulating work experience over time, it appears they may be accumulating it through a series of jobs with shorter duration than natives, but without intervening spells of non-employment.

In addition to the hazard rates and the probability of moving directly into a new job, the school-to-work transition can be elaborated through the probability of entering non-employment, which is discussed in the next section.

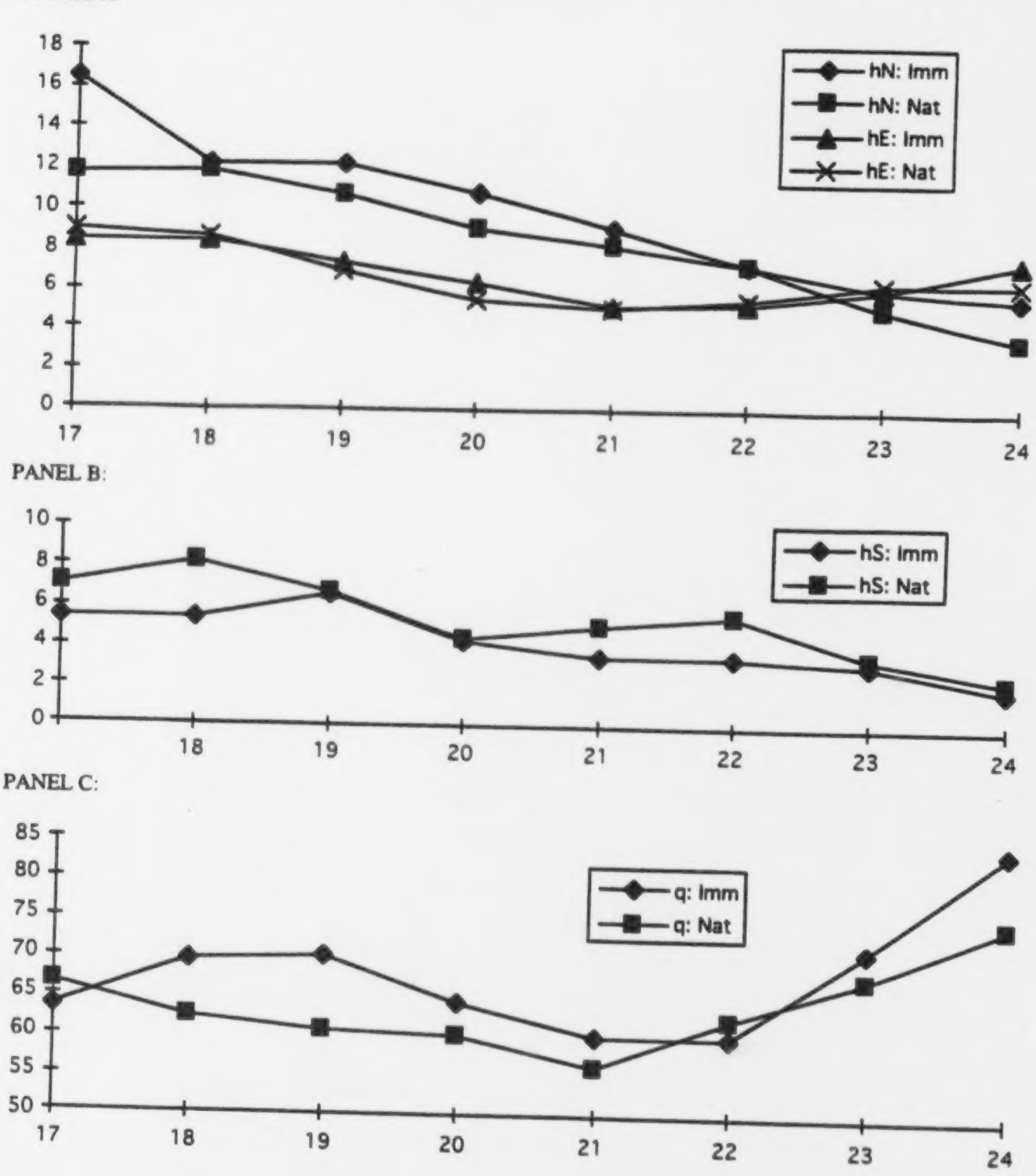


Figure 4.5: Probability of leaving Employment, Non-employment, and Post-Secondary Education, as well as, the Probability of Entering a New Job for Immigrants and Natives

Probability of Entering Non-Employment after Employment or after Post-Secondary Education

Non-employment is high during teenage years. At age 18. half of youth who leave employment. enter non-employment and 45 percent who leave post-secondary school. also enter non-employment. However. the percentage of youth entering into non-employment declines with age. with the steepest decline for those age 19 to 22 (Figure 4.6).[34] This indicates that 'hanging out' by youth declines as they mature. There is a slight rise in the percentage of 20 through 23 year olds entering non-employment. who just left post-secondary school. But this increase is probably a result of youth. who initially leave school with some post-secondary education and enter the labor force at a later age. Leaving school at a later age pushes off the periods of non-employment which follow schooling until later. But overall. by age 24 relatively few youth are entering non-employment. By age 24. 13 percent of youth are entering non-employed after attending post-secondary school and 23 percent of youth are entering non-employed after leaving a job.

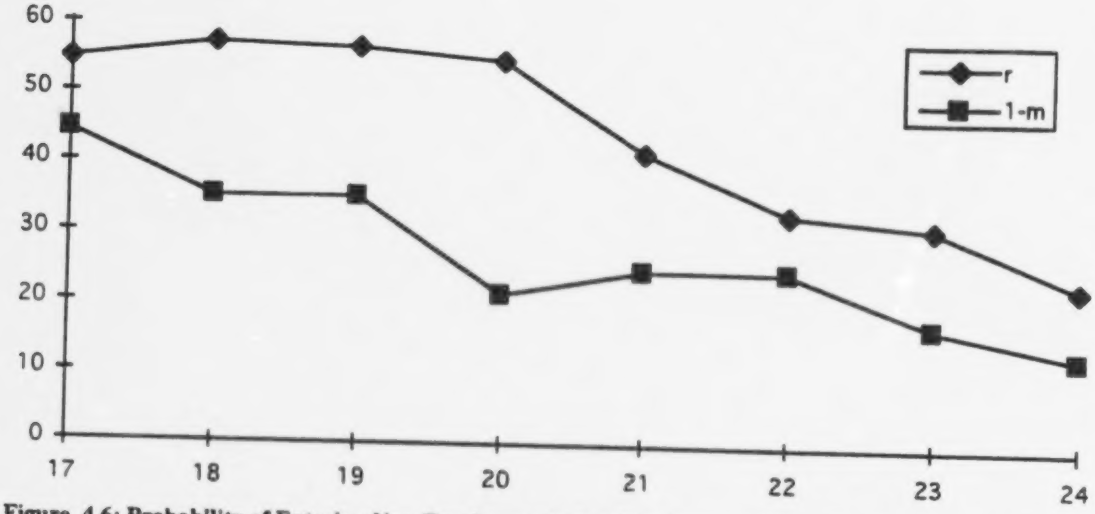


Figure 4.6: Probability of Entering Non-Employment after Employment (r) or after Post-Secondary Education (1-m)

---

[34] The percentage of youth in non-employment (either after leaving employment or post-secondary education is calculated from the probability of non-employment conditional on either a period of employment or post-secondary schooling.

Immigrants and natives follow different paths into non-employment before the age of 20. During the initial years of leaving high school, i.e. between the ages of 17 and 20, roughly 35 to 50 percent of immigrants enter into a period of non-employment following schooling, whereas less than one-third of natives are entering non-employment following post-secondary school at this same age. This indicates more 'hanging out' for immigrants following a period of post-secondary education. However, the opposite is true when comparing the percentage of immigrants and of natives entering non-employment following employment during these ages. One half of immigrants aged 17 to 20 enter non-employment after holding a job, whereas close to three-fourths of natives aged 17 to 20 enter non-employment after holding a job. Natives are 'hanging out' more than immigrants following employment. Furthermore, after the age of 20, the patterns of entering non-employment following either post-secondary schooling or a job are similar for immigrants and natives; the patterns decline with age. Therefore, during the early years of the school-to-work transition, immigrants and natives enter into periods of non-employment from different types of activities: immigrants tend to move from post-secondary schooling into non-employment and natives enter non-employment after holding a job. But after the age of 20, immigrants and natives enter non-employment in the same proportions and subsequent to the same activities.

Besides entering non-employment, youth can decide to enter into post-secondary schooling after a period of employment or of non-employment. The percentage of youth ages 17 to 24 who face these trade-offs are discussed in the next section.

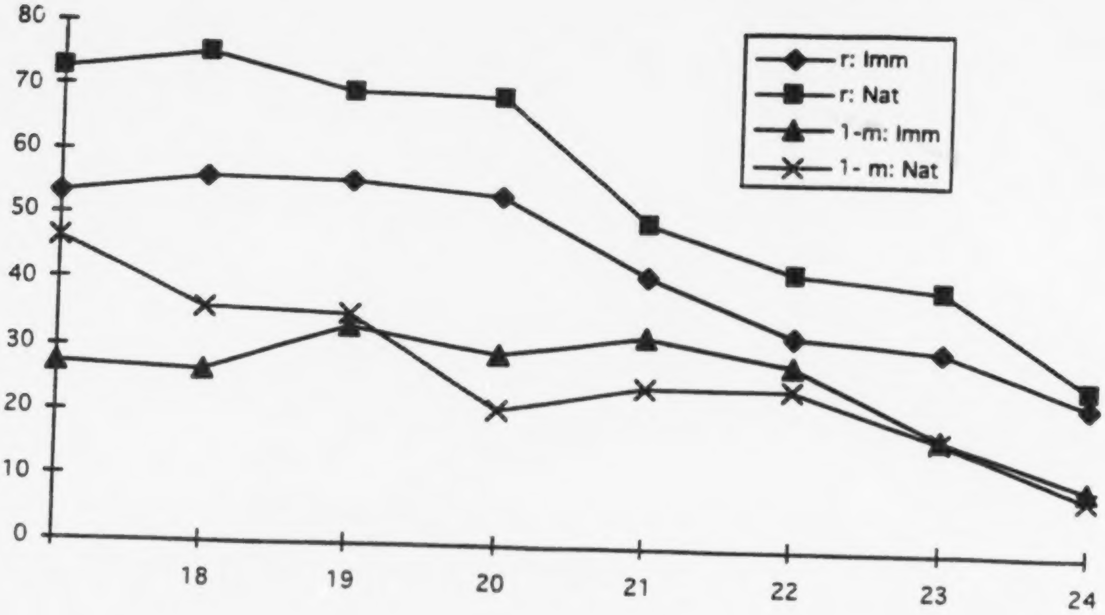


Figure 4.7: Probability of Entering Non-Employment after Employment (r) or after Post-Secondary Education (1-m) for Immigrants and Natives

Probability of Post-Secondary Education after Non-Employment or after Employment

Entering post-secondary education during the transition involves many trade-offs. During non-employment or employment, youth can decide to return to post-secondary education. Figure 4.8 depicts the percentage of youth aged 17-24 who return to post-secondary education after a spell of non-employment or holding a job. The percentage of youth returning to post-secondary education declines roughly from one quarter of 17 and 20 year olds who leave non-employment to 10 percent of the 21 - 24 year olds leaving non-employment. As youth who are leaving non-employment age and pass the age of 20, fewer decide to enter into post-secondary education. On the other hand, as youth who are leaving employment age and pass the age of 20, more decide to return to post-secondary education. Many youth over the age of 20 consider the trade-off between entering post-secondary education or employment after a period of non-employment. A high percentage choose employment. While youth over the age of 20 who are leaving employment also contemplate the trade-off between returning to school or entering non-employment. Most choose to return to school. Thus, 60 percent of 24 year olds who are leaving a job return to post-secondary education rather than enter non-employment. With a longer reference period, i.e. until the age of 30, this trend should change and start to decline. By 30, most young adults have attained the post-secondary degrees they are pursing.

The general pattern of entering post-secondary education for youth does not differ between immigrants and natives (Figure 4.9). But the percent of immigrants who leave employment and return to post-secondary school is higher in every age group between 17 and 24 compared to the percent of natives. It is noteworthy that at every age there is a higher percentage of immigrants entering into post-secondary education than natives. This adds additional support to immigrants preference for attending post-secondary education during their early labor market careers.

The school-to-work transition also encompasses trade-offs for entering employment. Youth make decisions whether to enter into employment or non-employment after leaving post-secondary school as well as whether to enter into employment or post-secondary school after leaving non-employment. The next section addresses these decisions of entering employment after periods of either non-employment or post-secondary education.

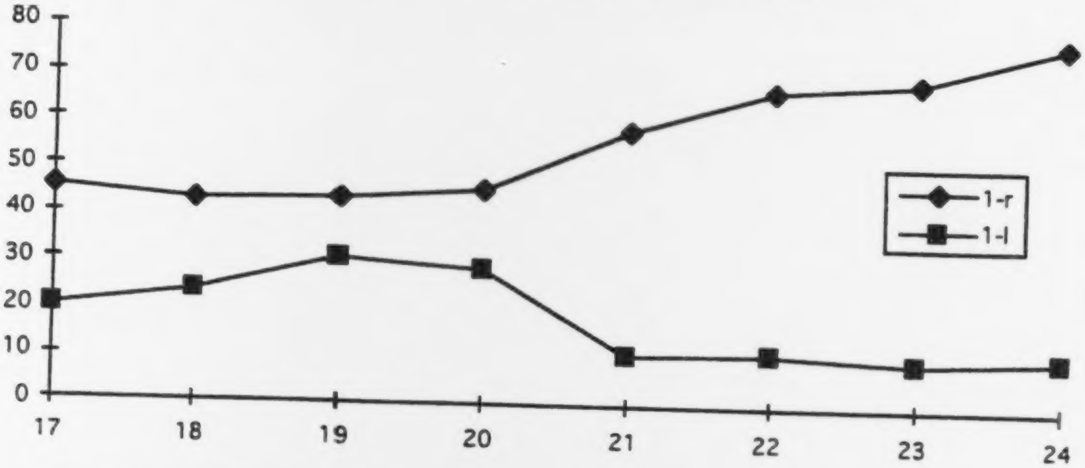


Figure 4.8: Probability of Post-Secondary Education after Non-Employment (1-l) or after Employment (1-r)

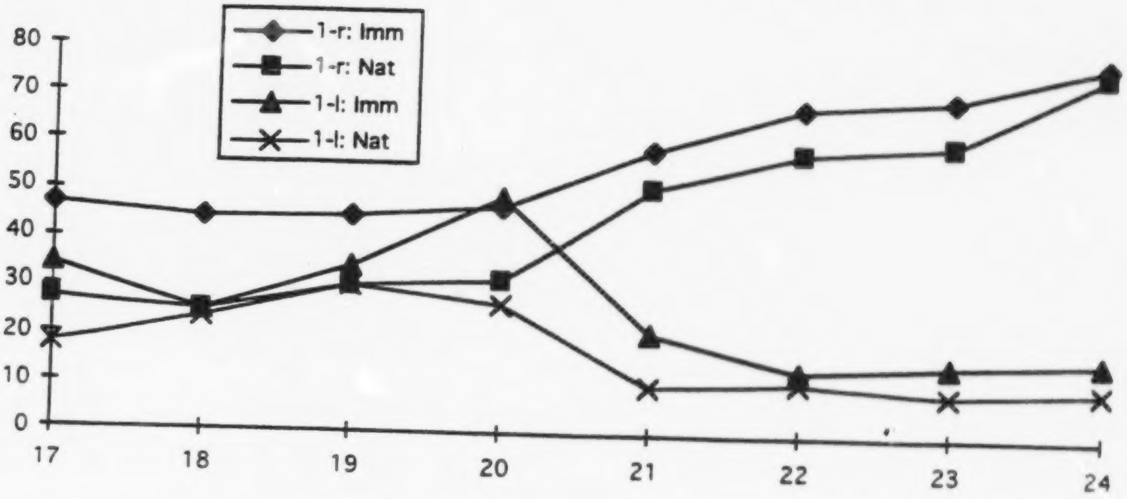


Figure 4.9: Probability of Post-Secondary Education after Non-Employment (1-l) or after Employment (1-r) for Immigrants and Natives

Probability of Entering a Job after Non-Employment or after Post-Secondary Education

Entering employment is a primary decision during the school-to-work transition and encompasses trade-offs between employment and other states, i.e., either post-secondary education or non-employment. The percentage of youth aged 17 to 24 entering employment after either post-secondary schooling or non-employment is increases steadily, as shown in Figure 4.10. Half of 17 year olds (53%), but roughly 80% of 24 year olds enter into a job instead of non-employment after post-secondary school. Moreover, the percentage of youth entering employment instead of post-secondary school after a period of non-employment slightly decreases until the age of 20, but it increases steadily after the age of 21. Youth consistently chose employment over other activities as they age over the course of their school-to-work transitions.

Immigrants and natives do not differ in their choice to work when faced with the trade-off of employment and non-employment after attending post-secondary school. They do, however, slightly differ in their decision to work when faced with choosing between employment and post-secondary education after time spent in non-employment. Until the age of 20, a higher percentage of immigrants choose a path of post-secondary education instead of working after a period of non-employment. (Figure 4.11). This underscores the immigrant preference for post-secondary education over working or non-employment.

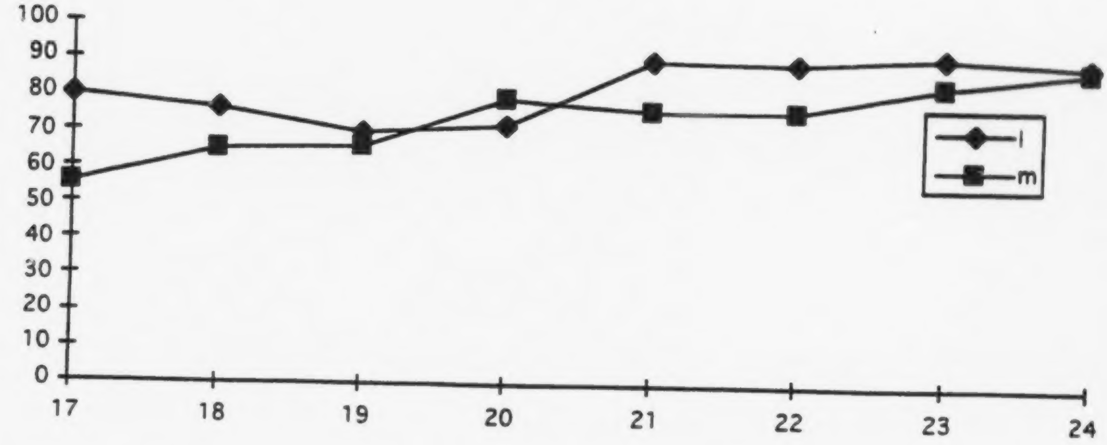


Figure 4.10: Probability of Entering a Job after Non-Employment (l) or after Post-Secondary Education (m)

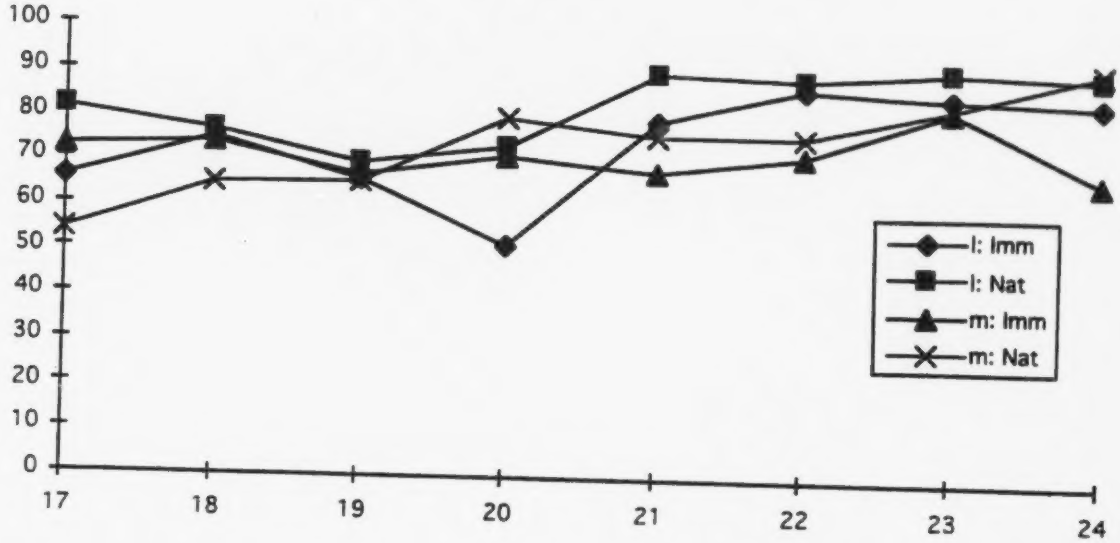


Figure 4.11: Probability of Entering a Job after Non-Employment (l) or after Post-Secondary Education (m) for Immigrants and Natives

SUMMARY

The school-to-work activities of youth change as they age. Once youth reach the age of 20, job duration increases and intermittent periods of schooling or non-employment between jobs decreases. Also the probability of leaving non-employment and post-secondary education steadily declines with age. In general, fewer youth leave employment, school, or non-employment as they mature. Over the course of their school-to-work transitions, however, youth consistently chose employment over other activities . These trends do not differ for immigrants and natives.

Other aspects of the school-to-work transition do differ for immigrants and natives. Immigrants spend more months attending post-secondary school, partially combined with part-time work. The percent of immigrants who leave employment and return to post-secondary school is higher than for natives in every age group between 17 and 24. Natives, on the other hand, work more full-time as a single activity than immigrants. They trade-off work for schooling. Natives also seem to accumulate less post-secondary schooling, because they 'mill around' more than immigrants between post-secondary school and either employment or non-employment.

In addition, immigrants 'hang out' more than natives following a period of post-secondary education, meaning immigrants tend to enter non-employment after attending post-secondary schooling . On the contrary, natives enter non-employment after holding a job; they 'hang out' more than immigrants following employment. Although these patterns are different, overall immigrants and natives accumulate only a slightly different number of months in non-employment.

Lastly, immigrants and natives do not differ in their choice to work when faced with the trade-off of employment and non-employment after attending post-secondary school. But they do differ slightly in their decision to work when faced with choosing between employment and post-secondary education after time spent in non-employment: immigrants choose post-secondary education more often than natives.

5. DO IMMIGRANTS FOLLOW DIFFERENT SCHOOL-TO-WORK PATHS BASED ON THE NUMBER OF YEARS SPENT IN THE UNITED STATES OR COUNTRY OF ORIGIN ?

Immigrants are distinct from natives in their school-to-work patterns. During their transition, foreign-born youth spend more time than natives attending post-secondary education and combining part-time work with post-secondary education. Native youth, on the other hand, spend more time than immigrants working, be it working full-time, or working as their sole activity, i.e. working more than 35 hours a week and not simultaneously attending post-secondary education. Are these school-to-work decision making patterns identical for all immigrants or do they differ based on other immigrant characteristics, such as the number of years an immigrant has spent in the United States or their country of origin? Can we speak of an overall immigrant pattern or is it really an immigrant sub-group which is making different school-to-work decisions?

Immigrants posses unique characteristics from natives. Immigrants, for example, arrive in the United States at different times, have varied experiences before arrival, have reasons for immigrating, enter legally or illegally, as well as, come from different countries. The number of years an immigrant has spent in the United States and their country of origin characterize their different experiences, values, aspirations, and expectations. The number of years an immigrant has spent in the United States proxies the immigrant's level of acculturation and assimilation into the United States. Country of origin identifies the immigrant's home experiences, root culture, primary language, value system, and ethnic base in the United States. These characteristics impact many adult immigrant decisions including those pertaining to labor force participation. In turn number of years in the United States and country of origin may also impact an immigrant youth's decision of attending post-secondary education in the United States, working part-time, combining work and school, etc. during their transition from school into the workforce. School-to-work patterns therefore may differ according to years spent in the United States and country of origin – individual characteristics which only immigrants may possess. The next two sections address immigrant differences according to number of years in the United States and country of origin.

IMMIGRANT SCHOOL-TO-WORK PATTERNS ACCORDING TO THE NUMBER OF YEARS IN THE UNITED STATES

In the HSB survey, immigrant Seniors provided the number of years they had spent in the United States based on three different categories: one to five years, six to ten years, and over ten years. Assuming that these immigrants had not skipped or doubled grades since their arrival in the United States, seniors who had spent one to five years in the United States had either been in the United States education system from eighth grade until their senior year, or only their senior year. In the same vain, seniors who had spent six to ten years in the United States had been in the United States education system since either third grade or seventh grade. And those who had been in the United States over ten years had been in the United States since before they were seven years old, i.e. in second grade.

Immigrant's school-to-work choices do differ by the amount of time they have spent in the United States (Table 5.1). The less time immigrants spend in the United States, the more time they spend during their school-to-work transition in post-secondary school and the less they work full-time compared to natives. Recent immigrants attend 9.6 months more of post-secondary education than natives, immigrants in the United States six to ten years attend 6.1 months more, and immigrants in the United States over ten years spend only 3.3 months more. Natives spend one year (12.7 months), recent immigrants almost two years (22.3 months), immigrants in the United States six to ten years spend a year and a half (18.8 months), and immigrants in the United States over ten years spend 16 months in post-secondary education during their transition from school-to-work. Thus, the immigrant school-to-work pattern, by years spent in the United States, is consistent with negative educational assimilation.

Conversely, the longer an immigrant spends in the United States, the more months they work on average and the more their school/ work pattern matches an average native. Recent immigrants work 12.6 months less than natives, immigrants in the United States six to ten years work 7.6 months less, and immigrants in the United States over ten years work 3.4 months less. Natives work three years and four months (40.3 months), recent immigrants work three years (36.9 months), immigrants in the United States six to ten years work 2 years and eight months (32.7 months), and immigrants in the United States over ten years work two years and four months (27.7 months).

Table 5.1: Immigrants with a Different Number of Years in the United States have Different School-to-Work Patterns

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	**E**	**PE**	**FE**	**E&S**	**EO**	**SO**	**UM**	**NILF**
Years in US:									
Over 10 Years	**3.3** (3.34)	**-3.4** (-2.84)	1.0 (1.05)	-2.13 (-1.65)	**4.8** (5.27)	**-6.1** (-5.06)	**1.3** (2.01)	**-1.4** (-3.37)	**-1.4** (-2.20)
6-10 Years	**6.1** (4.19)	**-7.6** (-4.39)	2.2 (1.65)	**-6.4** (-3.41)	2.5 (1.91)	**-5.9** (-3.38)	**1.8** (2.07)	**-1.6** (-2.63)	-0.06 (-0.06)
1-5 Years	**9.6** (6.38	**-12.6** (-7.03)	**3.6** (2.57)	**-12.1** (-6.30)	**4.4** (3.29)	**-12.2** (-6.77)	**4.7** (5.06)	-0.9 (-1.44)	-0.67 (-0.68)
Intercept: Native	12.7 (59.3)	40.3 (157.4)	13.3 (65.7)	32.2 (116.7)	13.1 (67.3)	33.1 (128.8)	6.7 (50.3)	4.2 (45.8)	8.2 (58.4)
R^2	0.0081	0.0088	0.0012	0.0062	0.0049	0.0094	0.0040	0.0023	0.0007

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

In terms of combining school with work or engaging in only one activity, recent immigrants and those in the United States over ten years spend approximately one semester more, i.e. four to five months, combining post-secondary school with employment. These immigrants spend roughly a year and a half combining work with school over the course of six years, whereas natives spend one year (13 months) combining work with school.

All immigrants spend more time in school as their sole activity, but recent immigrants spend one semester more, 4.7 months, in school as their only activity. Natives spend on average 6 months in school as their sole activity and recent immigrants spend one year (11.4 months). Immigrants in the United States six to ten years, and those here over ten years, spend only one more month -- 1.8 and 1.3 months respectively -- in school as their only activity than natives, acquiring a total of eight months over the course of six years.

Immigrants also work as their sole activity less than natives. But it is recent immigrants that work as their only activity on average one year less than natives (12.2 months), whereas other immigrants work as their only activity six months less than natives. Recent immigrants work one year and eight months working as their sole activity, while natives spend two years and eight months in the same activity.

Recent immigrants, rather than immigrants who have been in the United States more than six years, work more on average in part-time jobs than natives. Natives work one year (13.3 months) in part-time employment and recent immigrants work one year and three months (16.9 months) in part-time jobs. Generally, as an immigrant spends more time in the United States, the less they work part-time and the more they work full-time. Recent immigrants spend 3.6 more months than natives in part-time employment and 12.1 months less in full-time employment. In terms of full-time employment, recent immigrants work one year and eight months (20.1 months) and natives work two years and eight months (32.2 months).

Finally, the number of months spent in unemployment is similar for natives and recent immigrants. Immigrants in the United States six to ten years spend 1.6 months less in unemployment, whereas immigrants who have spent more than ten years in the United States are unemployed 1.4 months less than natives. In addition, immigrants who have been in the United States over ten years spend less number of months not in the labor force or in school (1.4 months less than natives), while recent immigrants and those who have spent six to ten years in the United States spend similar number of months not in the labor force or in school as natives. Overall, natives spend one year in non-employment, recent immigrants 10 months, immigrants in the United States six to ten years 10.7 months, and immigrants in the United States over ten years 9.6 months. Recent immigrants, compared to immigrants who have spent more than five years in the United States, tend to differ the most from natives in terms of their schooling and employment decisions (Figure 5.1). The immigrant differences are therefore primarily associated with recent immigrants. Recent immigrants tend to work one year less than natives and spend eight months, approximately two semesters, more in post-secondary education; half of their additional time in school is combined with part-time work. Therefore, although immigrants, particularly recent immigrants, participate less in the workforce, they are not spending their time unproductively. They are not 'milling around' but are bettering their skills and acquiring more human capital.

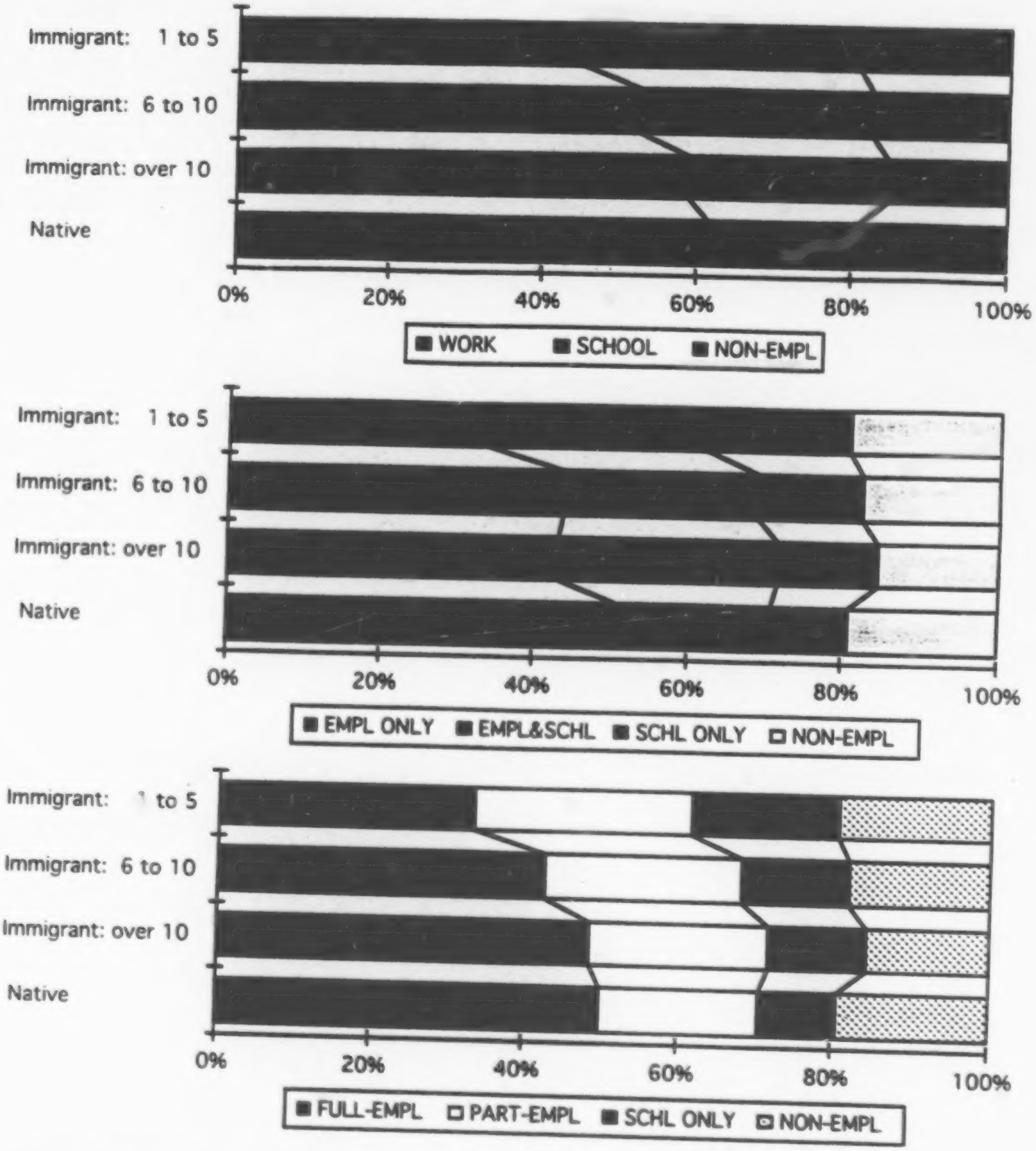


Figure 5.1: The Percentage of Time Immigrants with Different Number of Years in the United States and Natives Spent During Their Transition from School-to-Work in Given Activities from July 1980 until July 1986

Recent immigrant youth are more drawn to post-secondary school: they spend roughly 20% of the time between the ages of 18 and 24 in post secondary school: one year out of the six year period. The educational aspirations and persistence of recent immigrants is a trait instilled through values, family, and the educational system of the home country -- all of which immigrants bring with them from their home country. The next section explores how immigrant activities during the transition from school-to-work differ by country of origin.

IMMIGRANT SCHOOL-TO-WORK PATTERNS BY COUNTRY OF ORIGIN

Immigrant attitudes and behaviors differ considerably based on their country of origin. Immigrant youth bring with them expectations and aspirations developed in the environment of their home country and culture, which can effect their view of the United States and their expectations of immigrating to the United States and making a future for themselves. Moreover, immigrant youths' parents and family environments reflect their cultural values and attitudes. These aspirations, values, expectations, etc. vary by country of origin and change based on the amount of time spent in the United States. As shown in Table 5.1, recent immigrants' school-to-work choices do differ from immigrants with more than five years in the Unites States. As described below, school-to-work patterns also differ according to country of origin (refer to Table 5.2).

Post-secondary schooling attendance differs by country of origin. Mexicans, Central Americans, blacks, as well as, South and East Asians attend post-secondary institutions as a full-time activity more than natives; however, the number of months varies considerably by country of origin. Mexicans attend post-secondary school 4.2 more months, Central Americans 3.2 more months, blacks 6.1 more months, and Asians 12.3 more months than natives. On average natives pursue post-secondary education for one year (12.7 months) during their first six years after high school, while Europeans and Canadians spend one year and three months (14.5 months), Central Americans a year and four months (15.9 months), Mexicans a year and five months (16.9 months), blacks a year and a half (18.8 months), and Asians spend two years (25 months) attending post-secondary institutions.

Full-time work experience is also accumulated differently by youth according to country of origin. Mexicans and Europeans/Canadians work the same number of months as natives, while Central Americans work 4.6 months less, blacks 8.3 months less, and Asians 11.4 months less than natives. Natives work three years and four months (40.3 months), while Mexicans, European/Canadians, Central Americans work approximately three years (37.4, 36.7, and 35.7 months respectively). Blacks work two years and 7 months (31.9 months) and Asians work two years and five months (28.9 months) during their early labor market career.

Table 5.2: Immigrants from Different Countries follow Different School-to-Work Paths

	Full-Time Activity		**Part- vs. Full-Time**		**Combined vs. Single Activity**			**Included in All**	
	S	**E**	**PE**	**FE**	**E&S**	**EO**	**SO**	**UM**	**NILF**
Origin:									
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Intercept: **Native**	12.7 (59.4)	40.3 (157.4)	13.3 (65.8)	32.2 (116.7)	13.1 (67.4)	33.1 (128.8)	6.7 (50.4)	4.2 (45.8)	8.2 (58.5)
R^2	0.0105	0.0080	0.0029	0.0061	0.0065	0.0095	0.0053	0.0026	0.0023

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

In terms of combining school with work, youth from different countries of origins face different trade-offs. Mexicans combine work and post-secondary education 4.4 months more, Central Americans 5.4 months more, and Asians 6.7 months more than natives. Natives combine work with school on average for one year (13.1 months), Asians for one year and eight months (19.8 months), and Mexicans and Central Americans for a year and a half (17.5 and 18.5 months respectively).

Instead of combining work and school, many youth only work or only attend school. Central Americans and blacks work as their sole activity 7.7 month less and Asians 11.5 months less than natives. Natives spend two years and nine months (33.1 months) working as their only activity, Mexican and European/Canadian immigrants two years and five months (29.3 and 29.4 months respectively), Central American and black immigrants two years (25.4 months), and Asian immigrant for only one year and nine months (21.6 months).

Most youth spend a similar number of months attending school as their only activity. Natives and immigrants from Europe, Canada, Mexico, and Central America spend 7 months attending school as their only activity. Black and Asian immigrants on the other hand attend school as their only activity 9 months (2.6 months more) and Asians one year (5.6 months more than natives).

School-to-work patterns by country of origin only vary slightly in terms of full- vs. part-time work or unemployment and labor force non-participation. Black immigrants work 8.3 months less in full-time jobs, while Asian immigrants work 5.9 months more in part-time jobs and 11.7 months less in full-time jobs than natives. Central American and Asian immigrants spent less time both unemployed or not in the labor force, while European and Canadian immigrants spend less time unemployed (2.0 months less) than natives.

School-to-work activities differ by country of origin in a variety of ways (Figure 5.2). Mexican immigrants primarily differ from natives in that they spend 4 more months in school and do this combined with employment. Central American immigrants attend post-secondary school more but do not work less. They do this by combining their full-time work with school as well as by choosing to only work less often than natives. Despite their differing employment and school patterns, Central American immigrants hold the same proportion of part-time and full-time jobs as natives.

European and Canadian immigrants only differ from natives in that they spend 2 months less in unemployment. Blacks immigrants, on the other hand, differ greatly from natives. They spend 8 months less employed as a full-time activity and 6 months more in school, but do this by attending post-secondary school as their sole activity and not as a combined activity with work. Black immigrants tend to spend the same number of months in part-time employment as natives, but spend 8 fewer months in full-time jobs as a single activity.

Finally. Asians are different than natives across all school-to-work choices. The higher number of months (12.3 months) that Asians spend in post-secondary school as a full time activity appears to be split between being combined with work (6.7 months) or only as a single activity (5.6). The number of months Asians spend combining work with school appears to be part-time work, since they work 5.9 months more in part-time jobs than natives. The fewer number of months Asians spend employed as a full-time activity than natives (11 months less) are also the fewer number of months they spend working less in full-time jobs, or employed as a single activity than natives.

Immigrants, regardless of country of origin are not lacking work experience more than native youth, although they again are participating less as a full-time single activity in the workforce. The preference for pursuing post-secondary education is apparent in immigrants from all countries of origin, except European and Canadian immigrants, who have similar school-to-work paths as natives. However, Asian immigrants have the strongest attachment to school, with one year less of work experience, but twelve months more of schooling, half of which are spent combining work with part-time employment. Then follow black, Mexican, and Central American immigrants in terms of the additional number of months in school compensating for the fewer number of months of accumulated work experience. Central American immigrants accumulated a similar amount of full-time work experience to natives. This is explained by the fact that although Central American immigrants spend an additional semester in post-secondary schooling they do it combined with full-time employment and not part-time employment as do the other immigrant groups.

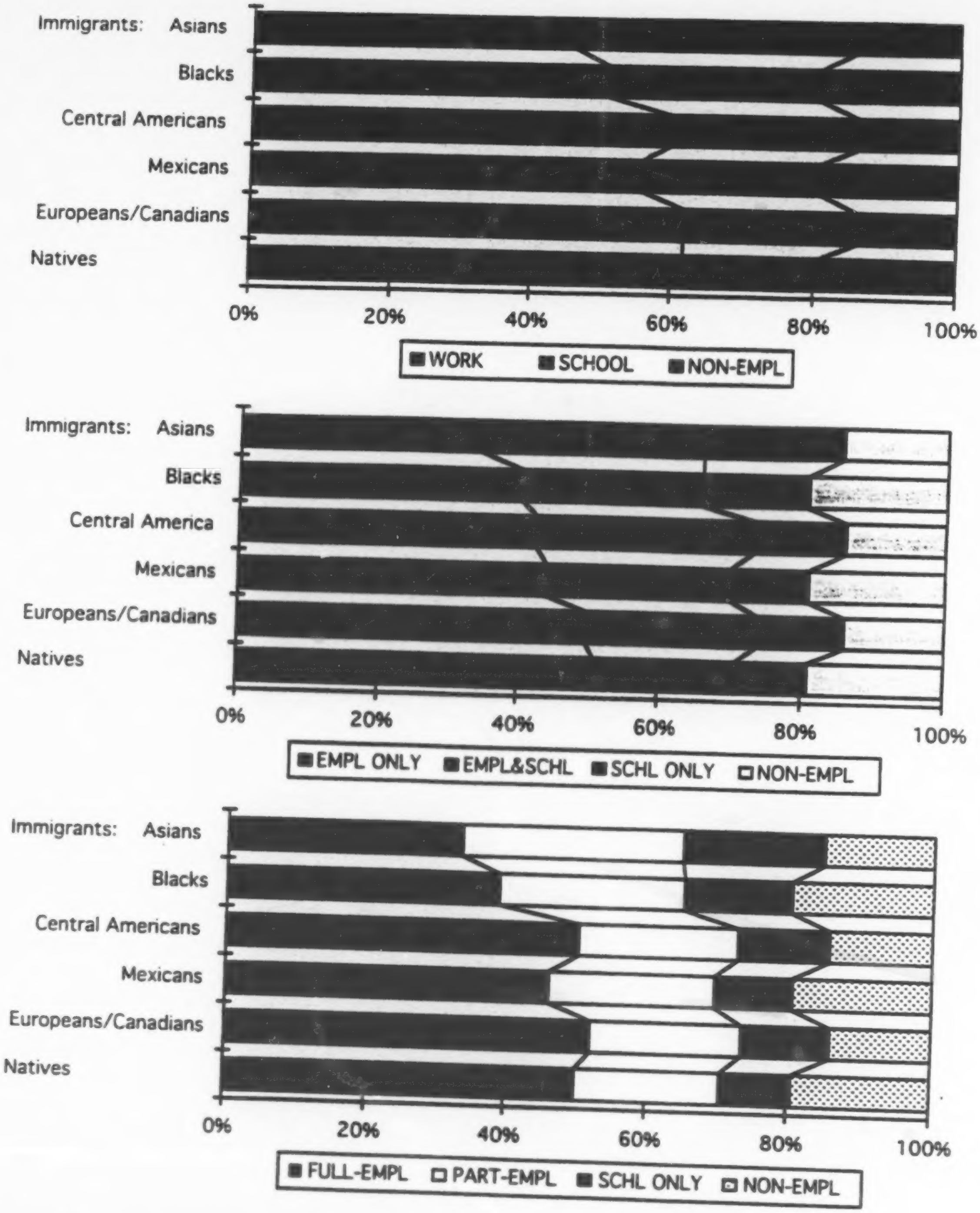


Figure 5.2: The Percentage of Time Immigrants from Different Countries of Origin and Natives Spent During Their Transition from School-to-Work in Given Activities from July 1980 until July 1986

SUMMARY

Immigrants and natives choose different school-to-work activities after high school regardless of years spent in the United States or country of origin. The overall immigrant differences within school-to-work patterns are largest for recent immigrants, and lessens as they remain in the United States. Immigrants, and particularly recent immigrants, attend more post secondary schooling, combine part-time work with post-secondary education, but spend less time working, be it working full-time or working as their sole activity (not simultaneously attending post-secondary education) as well as spend less time unemployed or not in the labor force. As assimilation theory and this evidence suggest, the longer an immigrant spends in the United States, the more they act and behave like natives.

The school-to-work paths identified for all immigrants are most closely mirrored by recent immigrants, while immigrant subgroups have unique school-to-work paths when examined by country of origin. European and Canadian immigrants generally do not differ from natives. Asian immigrants follow the established school-to-work pattern of all immigrants, while other immigrant groups differ in some respects. Black immigrants follow the most similar school-to-work path to Asian immigrants, except they do not differ from natives in the number of months spent in part-time employment, or in school combined with work. Central American immigrants differ from natives during their transitions by attending more months of post-secondary schooling combined with full-time employment. Mexican immigrants, compared to natives, attend more post-secondary schooling, but combine their schooling with part-time employment.

Country of origin therefore does distinguish unique paths for immigrants during their transition from school into the workforce. An immigrant's number of years in the United States or their country of origin distinguish different school-to-work patterns, but neither uniquely explains an immigrant's chosen path. Both characteristics are necessary to understand how and why immigrants follow different paths during the transition from school-to-work than natives.

Although recent immigrants, and Asian, black, and Mexican immigrants do accumulate considerably less full-time activity work experience than natives, immigrants do not spend their time unemployed or not in the labor force when they are not working as a full-time activity. These differences are a result of their commitment to post-secondary education, although they have to combine their schooling with part-time employment. Furthermore, Central American and Mexican immigrants do not spend their time not working as a full-time activity more unproductively than natives; they even accumulate the same work experience, in terms of number of accumulated months of work experience, as natives since they combine post-secondary education with full- or part-time employment.

The main school-to-work concern therefore is not whether immigrants are spending their time more unproductively than natives when they are not in the labor force, but the quality of the work experience they are receiving compared to natives as well as the economic returns of the additional time spent in schooling in light of the 50% attainment rate for post-secondary degrees (conditional on returning). Further research is needed to investigate the quality and type of jobs held by immigrants, while either simultaneously in school or working as their sole activity, compared to natives during the transition from school into the workforce.

6. CAN THE DIFFERENT IMMIGRANT AND NATIVE SCHOOL-TO-WORK PATTERNS BE EXPLAINED BY OBSERVABLES?

Youth who leave high school and enter the work force have different school-to-work decision making patterns. This analysis has demonstrated different paths across the following sub-groups: immigrants vs. natives, recent vs. earlier immigrants, and immigrants from Mexico, Central America, Africa/Caribbean/Jamaica, as well as South and East Asia. These differences could result from immigrant characteristics, such as country of origin and years spent in the United States, or from other characteristics shared by all youth, such as parent's income, parent's education, or academic achievement. This chapter analyzes the influence of characteristics other than those unique to an immigrant on the school-to-work differences between immigrant and native activity patterns. If these other characteristics explain the different paths followed by immigrants, then the different immigrant decision making patterns could also be identified by non-immigrant traits. There would be a more universal explanation as to why immigrants tend to make different school-to-work decisions. On the other hand, if these other more common characteristics can not explain the different school-to-work patterns, then there would exist a unique traits held by an immigrant which influence their decisions during their transition from school into the workforce. The following sections investigate these issues: Section one addresses whether individual or family characteristics explain the overall immigrant school-to-work differences. Section two focuses on how these characteristics explain immigrant differences according to the number of years spent in the United States. Section three examines their effect on the different school-to-work patterns by country of origin.

EXPLAINING IMMIGRANT SCHOOL-TO-WORK PATHS

Youth's school-to-work choices are influenced by their environment particularly during the time when they are deciding to leave school (Rees, 1986; Hirschman, 1988; Freeman and Wise, 1982). Various reasons explain the different paths youth follow, such as the youth's race, level of family income, parent's educational attainment, number of siblings, whether the mother worked in high school, youth's academic achievement, English skills, aspirations for college, attitude toward working hard, number of children, perception of the importance of steady work, or financial aid for college. Moreover, this analysis found that immigrants and natives differ in their choices. During their school-to-work transition, foreign-born youth spend more time than natives attending post-secondary education and combining part-time work with post-secondary education. Native youth spend more time than immigrants working either full-time or as their sole activity (not simultaneously attending post-secondary education). Therefore, this chapter investigates whether family or individual traits, beliefs, and attitudes explain the differences found between immigrants and natives.

Individually none of the individual or family characteristics were significant in explaining the immigrant and native differences, although college aspirations was the single most important determinant of the immigrant school-to-work differences. Appendix E details these findings.

A combined set of family and individual characteristics -- gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college-- were included in a basic model containing immigrant status to test whether a combination of characteristics could explain the different school-to-work paths of immigrants. All of these variables were collected in 1980 and therefore are not endogenous to the decisions made during the individual's school-to-work transition.

Together these characteristics explained all of the immigrant differences across part- and full-time employment, not in the labor force months, as well as, the additional months spent by immigrants attending school as their sole activity (Table 6.1).

Table 6.1: Individual and Family Influences impact Immigrant School-to-Work Activities

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Immigrant	**5.5** (7.46)	**-6.5** (-7.41)	**1.9** (2.74)	**-5.4** (-5.71)	**4.2** (6.25)	**-7.4** (-8.37)	**2.2** (4.85)	**-1.3** (-4.28)	**-0.9** (-2.00)
Controlling for:									
Set of Controls*	**1.74** (2.1)	**-2.1** (-2.1)	1.09 (1.3)	-1.92 (-1.7)	**1.88** (2.6)	**-2.6** (2.7)	0.37 (0.7)	**-1.3** (-3.8)	-0.53 (-0.9)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

In addition, roughly two-thirds of the differences between immigrant and native post-secondary school attendance and accumulated work experience was explained by individual and family characteristics. The 5.5 additional months immigrants spend attending post-secondary education was reduced to 1.74 months. This reduces the average of 18 months spent in post-secondary education by immigrants to 14.5 months as compared to the one year for natives. The combined set of traits decreased the 6.5 fewer months immigrants spend employed as a full-time activity to 2.1 fewer months. And the 7.4 fewer months immigrants spend employed as their sole activity was reduced to 2.6 fewer months.

Individual and family characteristics explained half of the differences found between immigrant and native in terms of combining work with school. The combined set of individual and family characteristics reduced the 4.2 additional months immigrants spend combining work with school to 1.88 additional months. This reduces the 17 additional months immigrants spend combining work with school to 15 months as compared to the roughly one year (13 months) for natives. Thus the schooling activities undertaken by immigrants and natives controlling for family and individual characteristics differ only by about 2 months, instead of the raw difference of approximately the length of a semester.

Despite the large reduction as a result of the set of controls, the remaining differences between immigrants and natives are significant. Immigrant and native differences across schooling and employment activities are not completely explained by individual or family traits. Immigrant patterns of additional schooling, often combined with employment, and less time working as their sole activity persist across individuals with all levels of English skills, academic achievement, race, attitudes toward work and college, as well as, all types of families in terms of parent's education, income, or number of siblings.

Thus, the immigrant differences must be explainable by still other unobservable traits and influences. Traits, other than parent's education, income, and family structure, or an individual's academic achievement, race, first language, aspirations for college, or their evaluation of the importance of steady work and financial aid contribute to the different schooling and employment patterns of immigrant and native youth who initially leave school without a college degree and enter the workforce. Explanations for these differences were sought among external high school or labor market characteristics and conditions, but none of these factors could sufficiently or uniquely explain the immigrant and native differences. Appendix E detail these investigations. The differences that remain when taking into account the set of individual and family characteristics therefore support evidence that immigrant youth are an inherently select group of highly motivated individuals.

EXPLAINING RECENT VS. EARLIER IMMIGRANT SCHOOL-TO-WORK PATTERNS

Recent immigrants behave differently during the transition from school-to-work than earlier immigrants. All immigrants attend more months of post-secondary education than natives; but the longer an immigrant has been in the United States, the less number of additional months of post-secondary school they attend. This is a pattern of negative educational assimilation.[35] Conversely, the longer an immigrant spends in the United States, the more months they work on average and the more their school/ work pattern matches an average native.

Recent immigrants, rather than immigrants who have been in the United States more than five years, work more on average in part-time jobs than natives. In general, as an immigrant spends more time in the United States, the less they work part-time and the more they work full-time.

---

[35] Evidence of negative educational assimilation was also found by Vernez (1996).

In terms of combining school with work or engaging in only one activity, recent immigrants and those in the United States over ten years spend approximately one semester, i.e. four to five months, more combining post-secondary school with employment. Recent immigrants also work as their sole activity on average one year less than natives (12.2 months), while immigrants in the United States more than five years work as their sole activity six months less than natives. Recent immigrants follow different school-to-work paths than other immigrants and natives.

Individual and family traits such as gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college, explain as expected from the previous section all of part- vs. full-time differences and not in the labor force months for immigrants regardless of their years in the United States (Table 6.2).[36] The set of individual and family characteristics reduces the overall difference in months spent in school and work as full time activities for immigrants in the United States six to ten years.[37] However, the school-to-work paths of recent immigrants are only moderately impacted by the combined set of individual and family characteristics.[38]

---

[36] These traits explain 1) all of the school-to-work differences for immigrants in the United States over ten years, except those across unemployment months and 2) all of full-time employment months, combining work with school, work as a single activity and school as a single activity for immigrant in the United States more than six years. For recent immigrants, the set of individual and family characteristics explains the differences across part-time employment and time spent not in the labor force.

[37] The controls reduce the 6.1 additional months immigrants in the United States six to ten years spent in school to an additional 2.8 months. They also reduce the 7.6 fewer number of months immigrants in the United States six to ten years spent in school as a full-time activity to 3.4 fewer months. This a 4 month reduction in the additional months immigrants in the United States six to ten years spent in schooling, approximately one semester, which translate into a subsequent additional four months on average spent working as a full-time activity.

[38] The controls reduced the 9.6 additional months recent immigrants spent in post-secondary education to 6 additional months, the 4.4 additional months recent immigrants spend combining work with school decreased to 3.4 additional months, as well as the 4.7 additional months recent immigrants spent attending school as a single activity, was reduced to 3 additional months. Combined the individual and family characteristics also impacted the differences across employment for recent immigrants. The controls reduced the 12.6 fewer months recent immigrants spend employed as a full-time activity to 7.2 fewer months, the 12.1 fewer months recent immigrants in full-time employment was reduced to 7.6 fewer months, as well as the 12.2 fewer months recent immigrants spend employed as a single activity decreased

Table 6.2: Family and Individual Traits impact the School-to-Work Activities of Recent & Earlier Immigrants

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Over 10 Years	**3.3** (3.34)	**-3.4** (-2.84)	1.0 (1.05)	-2.13 (-1.65)	**4.8** (5.27)	**-6.1** (-5.06)	**1.3** (2.01)	**-1.4** (-3.37)	**-1.4** (-2.20)
6-10 Years	**6.1** (4.19)	**-7.6** (-4.39)	2.2 (1.65)	**-6.4** (-3.41)	2.5 (1.91)	**-5.9** (-3.38)	**1.8** (2.07)	**-1.6** (-2.63)	-0.06 (-0.06)
1-5 Years	**9.6** (6.38	**-12.6** (-7.03)	**3.6** (2.57)	**-12.1** (-6.30)	**4.4** (3.29)	**-12.2** (-6.77)	**4.7** (5.06)	-0.9 (-1.44)	-0.67 (-0.68)
Years in US Controlling for: **Set of Controls***									
Over 10 Years	-0.5 (-0.5)	0.37 (0.30)	0.18 (0.17)	0.61 (0.4)	1.74 (1.95)	-1.3 (-1.1)	-0.6 (-0.9)	**-1.08** (-2.4)	-0.42 (-0.6)
6-10 Years	**2.8** (2.0)	**-3.4** (-1.99)	1.5 (1.0)	-2.9 (-1.5)	0.45 (0.3)	-1.2 (-0.7)	0.22 (0.25)	**-1.89** (-2.9)	0.20 (0.2)
1-5 Years	**6.0** (4.0)	**-7.2** (-3.8)	2.87 (1.85)	**-7.6** (-3.7)	**3.44** (2.5)	**-7.6** (-4.2)	**3.0** (3.1)	**-1.68** (-2.4)	-1.34 (-1.3)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient and bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

Analyzing the impact of individual and family characteristics on the immigrant differences according to years spent in the United States indicates that the overall immigrant differentials are primarily a recent immigrant difference. The differences across recent immigrants, earlier immigrants, and natives are largest for recent immigrants vs. natives. Individual aspirations, such as those toward college, explain the immigrant differences for immigrants in the United States over ten years and reduce the differences between natives and immigrants in the

---

to 7.6 fewer months. There was again a 4 month reduction in the additional months recent immigrants spent in schooling on average and a 4 month increase in the overall number of months they spend employed, whether it be full-time employment, as a full-time activity, or a single activity.

United States six to ten years (refer to Appendix E, Table E.2). Other individual characteristics, such as race, academic achievement, and having a non-English first language do impact recent immigrants, rather than earlier immigrant youth, but the impact is slight. Moreover, the differences across recent immigrants and natives in terms of schooling and employment decisions remain large, despite controlling for family traits or slight individual influences, such race or academic achievement. The unexplainable differences between immigrants and natives appear to be attributable to recent immigrants.

EXPLAINING THE DIFFERENT COUNTRY OF ORIGIN SCHOOL-TO-WORK PATTERNS

Immigrant school-to-work patterns differ by country of origin (table 6.3). Mexican immigrants primarily differ from natives in that they spend 4 more months in school and do this combined with employment. Central American immigrants attend post-secondary school more and work less, but do this by both combining their work with school as well as by choosing to work as their sole activity less often than natives; despite their differing employment and school patterns Central American immigrants hold the same proportion of part-time and full-time jobs as natives. European and Canadian immigrants only differ from natives in the fact that they spend 2 months less in unemployment.

Black immigrants, on the other hand, differ greatly from natives. They spend 6 months more in school and eight months less employed as full time activities. They do this not as a combined activity with work but as a single activity of only attending post-secondary school. Also black immigrants tend to spend the same number of months in part-time employment as natives, therefore all of the months that they spend working less than natives are eight months less of employment in full-time jobs as a single activity.

Finally, Asian immigrants are different than natives across all school-to-work choices. The additional number of months, 12.3 months, that Asian immigrants spend in post-secondary school as a full time activity appears to be split between being combined with work, 6.7 months, or only as a single activity, 5.6 months. The number of months Asian immigrants spend combined with school appears to be part-time work. Asian immigrants are also employed less than natives both as full-time work, and employed as a single activity.

These country of origin differences are partially attributable to other individual or family characteristics, such as race, parent's education, or family income, or to the high school or labor market conditions. The analysis presented in the next section provides several findings concerning the school-to-work paths of youth by country of origin.

Controlling for race influences the number of months Mexican, Central American, and black immigrants spend in post-secondary schooling and combining work with school as well as the number of months Asian immigrants spend in all school-to-work activities, except unemployment and not in the labor force months. Controlling for race increased the additional months spent in school by from 4.2 to 5.1 for Mexican immigrants, from 3.2 to 4.0 for Central American immigrants, from 6.1 to 6.6 for black immigrants, but decreased the additional months that Asian immigrants spend in school from 12.3 to 9.2. Controlling for race also increased the fewer number of months spent working from 4.6 to 5.2 for Central American immigrants and from 11.4 to 7 for Asian immigrants. Controlling for race increased the additional number of months spent combining work with school from 4.4 to 5.1 for Mexican immigrants, 5.4 to 6 for Central American immigrants, but decreased the months from 6.7 to 4.9 for Asian immigrants. Moreover, accounting for race increased the number of months Asian immigrants spend in part-time employment from 5.9 fewer than natives to 5.3 fewer months, full-time employment from 11.7 fewer months to 9 fewer months, working as their sole activity from 11.5 fewer months to 7.7 fewer months, and attending school as their sole activity from 5.6 more months to 4.9 more months than natives.

Controlling for race has a different impact across country of origin (refer to Table 6.3). Correcting for racial differences increases the immigrant and native differentials for Mexican and Central American immigrants, but reduces the differentials for Asian immigrants, as compared to natives. Controlling for racial characteristics and values increases the number of months spent in post-secondary education and reduces the months spent employed for immigrants from Mexico and Central America, but does the reverse for immigrants from South and East Asia. Controlling for race decreases the range of immigrant country of origin differences from 9 months -- 3.2 months for Central American immigrants to 12.3 months for South and East Asian immigrants -- in post-secondary education to a range of 5 months -- 4 months for Central Americans to 9.2 months for South and East Asians. Correcting for racial disparities also explains away all of the differences for European/Canadian immigrants and black immigrants compared to natives, except black immigrants attend additional months of schooling or schooling combined with work compared to natives.

This impact of race on immigrant patterns can be understood by remembering that the immigrant differences are primarily a recent immigrant effect and not a racial effect. Recent immigrants, in this case, are those immigrants who came during 1975 - 1980 and came primarily from Mexico, Central America, and Asia, and not Europe, Canada, Africa, or the Caribbean. Moreover, the racial impact on immigrant's country of origin is different for Asians and Hispanics because of the racial differences in the native population. Asian natives and immigrants both have high educational aspirations and persistence in post-secondary education, whereas for Hispanics it is only the immigrants who have higher educational aspirations and persistence than natives.

Parent's educational background influences Mexican and Asian immigrants only (refer to Table 6.4). For Mexican immigrants, correcting for parent's education increases both their additional number of months spent attending post-secondary school as well the number of months they spend combining work with school. For Asian immigrants, controlling for parent's education again has the opposite impact; it decreases the additional number of months that Asian immigrants spend attending post-secondary schooling, combining work with school, and attending school as a single activity. Furthermore, accounting for parent's education decreases the fewer number of months Asian immigrants spend employed, full-time or part-time, as well as, a single activity. This again can be explained by the differences in recent and earlier immigrants as well as the underlying differences in the native population according to parent's education and country of origin. Native-born South and East Asians have higher levels of parental education than Central American and Mexican natives.

Academic achievement influences only the number of additional months Mexican immigrants spend attending post-secondary education, or combining work with school (refer to Table 6.5). The number of additional months spent attending post-secondary school is increased from 4.2 to 5.2 months and the additional months spent combining work with school is increase from 4.4 months to 5.6 months. Thus, comparing Mexican immigrants of the same ability to Mexican natives, Mexican immigrants spend even more months attending post-secondary education, particularly as their sole activity or combined with work. There is no difference in employment paths.

Correcting for differentials in English as a first language and good English grades in high school impacted only the employment choices of Central American immigrants, but both the schooling and employment paths of immigrants from South and East Asia during their school-to-work transition (refer to Table 6.6). Controlling for English as a first language, which primarily measures reading, writing, speaking, and comprehension skills in English, and for English grades in high school decreased the fewer number of months spent by Central American immigrants who are employed as their sole activity from 7.7 to 6.6. Therefore, if all Central American immigrants had similar English competency to natives, the immigrant and native differences across employment as a single activity would be reduced by one month. In terms of Central American immigrants, who have the smallest difference of months spent employed as a single activity (3.2 months) compared to natives, this is a significant change. Central American immigrants would acquire on average one more month of work experience, not combined with school, if their English competencies were similar to natives.

Moreover, English skills also decreased the number of months Asian immigrants spend in post-secondary education from 12.3 additional months to 11.5 months, employed as a full-time activity from 11.4 fewer months than natives to 10.3 fewer months, are employed full-time from 11.7 fewer months to 10.7 months, as well as the months Asian immigrants are employed as their sole activity from 11.5 fewer months than natives to 10.9 fewer months. If all South and East Asian immigrants had similar English competency to natives, Asian immigrants would spend one more month in employment, as a full-time activity, as full-time employment, or as a single activity, and one less month attending post-secondary education. For Asian immigrants, this one month shift is a small portion of their overall schooling and employment differences compared to natives. Therefore the impact of English competency, albeit a consistent one month, is not as relevant for Asian as for Central American immigrants.

Disappointed in not being a college graduate had no effect on Mexican immigrants, but explained all of the differences in terms of attending post-secondary school, working as a full-time activity, full-time employment, or employment as a single activity between Central American immigrants or black immigrants and natives (refer to Table 6.7). College aspirations also lessened the differences between natives and Asian immigrants across all the school-to-work activities. Thus, if black natives and black immigrants as well as Central American immigrants and natives had the same college aspirations. then they would not differ in their school-to-work paths in terms of employment, be it full-time employment or as a single activity, or attending post-secondary education. Thus, educational motivation and aspirations for college are strong influences among black and Central American immigrants, explaining the differences among immigrants and natives from these two countries.

Controlling for gender, family income, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid for going to college, eliminate all differences between black and Central American immigrants and natives (refer to Table 6.8). Thus, the immigrant differences for black and Central American immigrants and natives are explainable by these individual and family characteristics. Mexican and Asian immigrant differences however are not fully explained by these particular characteristics and traits.[39]

Even controlling for individual and family traits, Mexican immigrants maintain a different school-to-work pattern than natives. Mexican immigrants attend an additional 4.4 months attending post-secondary school as well as an addition 5.3 months combining work with school. With the controls, Asian immigrants also have a different school-to-work patterns than natives. Asian immigrants attend more months of post-secondary school, combining work with school, attending school as their sole activity, and working part-time, while also working less months in full-time jobs, or in employment as their sole activity.

Controlling for known individual and family influences, immigrants continue to differ from natives across country of origin. Immigrant differences remain, except in number of months spent working as a full-time activity. More time is spent in part-time employment for Asian immigrants (5.1 months) and fewer months in full-time work (6.6 months). In terms of working as a sole activity, Mexican and Asian immigrants spend fewer months (4.2 months for both) employed as their only activity compared to natives. However, additional months of schooling as a full-time activity are spent by Mexican immigrants (4.4 months) and Asian immigrants (6.3 months). Also more time is spent combining work with school by Mexican immigrants (5.3 months), Central American immigrants (2.7 months), and Asian immigrants (3.4 months), while only Asian immigrants spend more months in schooling as a single activity than natives (3.2 months).

---

[39] Vernez, et al. (1996) finds evidence of the same pattern according to race and post-secondary educational outcomes.

SUMMARY

The path an immigrant follows after leaving school and entering the workforce is different than the path a native follows. Recent immigrants differ from those who arrive earlier as well as immigrants from different countries also undertake different school-to-work paths. Individual characteristics and aspirations, family values, education and income impact the decisions, constraints, and choices which make up an individual's school-to-work path. Particular sub-groups of immigrants are impacted by certain known influences, while others can only be attributed to unobservable traits of being an immigrant. The differences that are attributable to unobserved characteristics could potentially be explained by the fact that immigrant youth are an inherently select group of highly motivated individuals.

Traits, such as parent's education, income, and family structure, or an individual's academic achievement, race, first language, or their evaluation of the importance of steady work and financial aid do not individually affect the different schooling and employment patterns of immigrant and native youth who initially leave school without a college degree and enter the workforce. However, combined as a set of controls, they explain roughly two-thirds of the differences found between immigrant and native employment schooling patterns during the school-to-work transition. College aspirations, more specifically being disappointed in not being a college graduate, was the single most important trait which explained specific behaviors among immigrants[40].

The differences across recent immigrants and natives, in terms of schooling and employment decisions, remained large despite any of the family traits or slight individual influences, such as race or academic achievement. This supports the suggestion that the unobservables driving the immigrant and native differences in school-to-work outcomes are based on immigrant youth being a select group of individuals who come to the United States. And as immigrants stay longer in the United States, they will regress toward the mean of the population.

Underlying the schooling differentials for Mexican immigrants and Asian immigrants is a racial influence. The racial impact on immigrant's country of origin is different for Asians and Hispanics because of the racial differences in the native population. Asian natives and immigrants both have high educational aspirations and persistence in post-secondary education, whereas for Hispanics it is the immigrants, not the natives, who have higher educational aspirations and persistence. These subtle influences of race on country of origin are noteworthy but inconsequential in terms of explaining overall differences among immigrants or immigrant subgroups.

---

[40] Individual college aspirations explained only immigrant differences for immigrants in the United States over ten years and reduced the differences between natives and immigrants in the United States six to ten years.

In the end, this analysis suggests that the different employment and schooling paths of recent immigrants, Asian and Mexican immigrants are partially explained by individual and family characteristics but mostly explained by other unobservable characteristics and conditions. The schooling differentials during the school-to-work transition for earlier immigrants as well as Central American and black immigrants seem to be explained by their levels of college aspirations, high school and labor market conditions. Persistent differences remained however, between natives and recent immigrants, or Asian immigrants or Mexican immigrants in terms of their accumulated work experience as a single activity, and their full-time employment or schooling as a single activity. Other unique unobservable immigrant characteristics seem to be a factor in the decisions and trade-offs faced by these immigrant subgroups in terms of schooling, as a single activity, and employment, either full-time employment or as a single activity, during their school-to-work transition.

Table 6.3: The Influence of Race on Immigrant's School-to-Work Paths by Country of Origin

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Controlling for: RACE									
Mexico	**5.1** (2.6)	-3.7 (-1.6)	2.16 (1.1)	-2.3 (-0.9)	**5.1** (2.9)	**-5.0** (-2.2)	1.3 (1.0)	-1.05 (-1.18)	0.5 (0.45)
CentralAmerica	**4.0** (2.8)	**-5.2** (-3.2)	0.10 (0.08)	-2.9 (-1.6)	**6.0** (4.7)	**-8.7** (-5.2)	1.4 (1.7)	**-1.9** (-3.3)	**-2.7** (-3.0)
Europe/Canada	1.34 (0.7)	**-4.4** (-2.0)	-0.67 (-0.3)	-2.7 (-1.1)	0.35 (0.2)	-4.0 (-1.8)	0.59 (0.5)	**-1.3** (-1.7)	-1.2 (-1.04)
Africa	**6.6** (3.0)	-3.7 (-1.4)	3.5 (1.7)	-3.1 (-1.1)	**5.6** (2.8)	-4.7 (-1.8)	2.0 (1.5)	**-2.5** (-2.7)	-2.4 (-1.7)
Asia	**9.2** (5.2)	**-7.08** (-3.3)	**5.3** (5.3)	**-9.0** (-3.9)	**4.9** (3.0)	**-7.7** (-3.6)	**4.9** (4.4)	-1.3 (-1.8)	-2.2 (-1.9)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

Table 6.4: The Influence of Parent's Education on School-to-Work Paths by Country of Origin

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Controlling for: PARENT'S EDUCATION									
Mexico	**6.4** (3.5)	-3.9 (-1.7)	2.8 (1.5)	-2.2 (-0.9)	**6.9** (4.1)	**-6.1** (-2.7)	1.69 (1.4)	**-1.8** (-2.3)	0.004 (0.004)
CentralAmerica	**3.3** (2.5)	**-4.3** (-2.8)	0.35 (0.2)	-2.3 (-1.6)	**5.7** (4.9)	**-7.7** (-5.0)	0.90 (1.1)	**-2.1** (-3.7)	**-2.4** (-2.8)
Europe/Canada	0.57 (0.3)	-2.7 (-1.2)	-0.78 (-0.4)	-1.0 (-0.4)	0.24 (0.1)	-2.3 (-1.1)	-0.04 (-0.04)	**-1.7** (-2.1)	-1.64 (-1.38)
Africa	**6.0** (2.8)	**-7.8** (-3.0)	3.13 (1.5)	**-7.8** (-2.8)	2.9 (1.5)	**-7.2** (-2.8)	2.5 (1.9)	-0.2 (-0.3)	-0.1 (-0.09)
Asia	**9.7** (6.9)	**-9.8** (-5.7)	**5.26** (3.8)	**-10.5** (-5.6)	**4.5** (3.5)	**-8.9** (-5.3)	**4.37** (4.9)	-0.7 (-1.2)	-1.22 (-1.29)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

Table 6.5: Influence of Academic Achievement on School-to-Work Paths by Country of Origin

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Controlling for: ACADEMIC ACHIEVEMENT									
Mexico	**5.2** (2.9)	-3.2 (-1.4)	2.6 (1.4)	-1.9 (-0.8)	**5.6** (3.5)	**-4.8** (-2.1)	1.13 (0.9)	-1.3 (-1.7)	0.4 (0.3)
CentralAmerica	**3.7** (2.9)	**-5.0** (-3.1)	0.4 (0.3)	-2.9 (-1.7)	**5.8** (5.1)	**-8.3** (-5.3)	1.2 (1.4)	**-1.9** (-3.5)	**-2.3** (-2.8)
Europe/Canada	0.04 (0.02)	-2.8 (-1.2)	-1.02 (-0.05)	-1.2 (-0.5)	-0.6 (-0.3)	-1.9 (-0.9)	-0.16 (-0.14)	-1.3 (-1.7)	-0.9 (-0.8)
Africa	**6.9** (3.29)	**-8.5** (-3.3)	3.27 (1.5)	**-8.27** (-2.9)	**3.7** (2.0)	**-8.3** (-3.2)	**2.9** (2.2)	-0.54 (-0.6)	-0.64 (-0.4)
Asia	**12.2** (8.7)	**-11.6** (-6.8)	**5.7** (4.2)	**-11.8** (-6.3)	**6.5** (5.2)	**-11.7** (-6.8)	**5.7** (6.4)	**-1.2** (-2.0)	**-1.8** (-2.0)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

Table 6.6: The Influence of English Skills on Immigrant's School-to-Work Paths by Country of Origin

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Controlling for: **ENGLISH SKILLS**									
Mexico	**4.0** (2.1)	-1.8 (-0.8)	2.3 (1.2)	-1.03 (-0.4)	**5.2** (3.0)	-3.7 (-1.67)	0.6 (0.5)	-1.3 (-1.6)	0.50 (0.3)
CentralAmerica	2.1 (1.5)	-2.8 (-1.6)	0.03 (0.02)	-1.2 (-0.6)	**5.3** (4.1)	**-6.6** (-3.8)	0.53 (0.5)	**-2.07** (-3.3)	**-2.5** (-2.6)
Europe/Canada	0.4 (0.2)	-2.1 (-1.0)	-0.92 (-0.5)	-0.4 (-0.2)	0.46 (0.2)	-2.1 (-1.0)	0.03 (0.02)	**-1.8** (-2.3)	-1.8 (-1.5)
Africa	**5.8** (2.7)	**-8.1** (-3.1)	3.01 (1.47)	**-8.1** (-2.9)	2.6 (1.3)	**-7.4** (-2.9)	2.4 (1.86)	**-0.1** (-0.1)	-0.03 (-0.02)
Asia	**11.5** (7.6)	**-10.3** (-5.6)	3.01 (1.47)	**-10.7** (-5.4)	**6.64** (4.8)	**-10.9** (-6.04)	**5.4** (5.7)	**-1.4** (-2.1)	**-2.21** (-2.2)
Mean for Natives	12.7	40.3	5.5	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

Table 6.7: The Influence of College Aspirations on School-to-Work Paths by Country of Origin

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2**	-2.9	2.3	-1.9	**4.4**	-3.8	0.68	-0.9	1.18
	(2.25)	(-1.33)	(1.33)	(-0.81)	(2.63)	(-1.73)	(0.58)	(-1.18)	(0.96)
CentralAmerica	**3.2**	**-4.6**	0.2	-2.6	**5.4**	**-7.7**	0.93	**-1.9**	**-2.1**
	(2.42)	(-2.92)	(0.21)	(-1.57)	(4.50)	(-4.88)	(1.13)	(-3.32)	(-2.53)
Europe/Canada	1.8	-3.6	-0.5	-1.5	1.38	-3.7	0.64	**-2.0**	-2.07
	(1.02)	(-1.65)	(-0.32)	(-0.66)	(0.83)	(-1.71)	(0.56)	(-2.54)	(-1.72)
Africa	**6.1**	**-8.39**	3.0	**-8.32**	2.9	**-7.7**	**2.6**	-0.22	-0.03
	(2.82)	(-3.24)	(1.49)	(-2.98)	(1.48)	(-2.99)	(1.94)	(-0.23)	(-0.02)
Asia	**12.3**	**-11.4**	**5.9**	**-11.7**	**6.7**	**-11.5**	**5.6**	**-1.24**	**-2.0**
	(8.46)	(-6.5)	(4.31)	(-6.27)	(5.10)	(-6.60)	(6.29)	(-1.98)	(-2.19)
Controlling for: Disappointed if not College Grad									
Mexico	**3.8**	-2.4	2.3	-1.5	**4.1**	-3.2	0.45	-0.9	1.2
	(2.1)	(-1.1)	(1.3)	(-0.6)	(2.5)	(-1.5)	(0.4)	(-1.1)	(1.03)
CentralAmerica	0.5	-1.8	-0.1	-0.6	**3.0**	**-3.9**	-0.4	**-1.5**	-1.4
	(0.4)	(-1.2)	(-0.1)	(-0.3)	(2.6)	(-2.5)	(-0.5)	(-2.7)	(-1.72)
Europe/Canada	0.42	-2.1	-0.7	-0.4	0.06	-1.6	-0.12	**-1.8**	-1.6
	(0.2)	(-0.9)	(-0.4)	(-0.1)	(0.04)	(-0.7)	(-0.1)	(-2.3)	(-1.4)
Africa	4.0	**-6.1**	2.7	**-6.6**	1.01	-4.6	1.49	-0.04	0.5
	(1.9)	(-2.4)	(1.3)	(-2.4)	(0.53)	(-1.8)	(1.13)	(-0.04)	(0.37)
Asia	**10.2**	**-9.6**	**5.4**	**-10.3**	**4.77**	**-8.8**	**4.69**	-0.97	-1.3
	(7.3)	(-5.7)	(3.9)	(-5.6)	(3.75)	(-5.3)	(5.3)	(-1.56)	(-1.4)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

Table 6.8: The Set of Controls impact on Immigrant's School-to-Work Paths by Country of Origin

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2**	-2.9	2.3	-1.9	**4.4**	-3.8	0.68	-0.9	1.18
	(2.25)	(-1.33)	(1.33)	(-0.81)	(2.63)	(-1.73)	(0.58)	(-1.18)	(0.96)
CentralAmerica	**3.2**	**-4.6**	0.2	-2.6	**5.4**	**-7.7**	0.93	**-1.9**	**-2.1**
	(2.42)	(-2.92)	(0.21)	(-1.57)	(4.50)	(-4.88)	(1.13)	(-3.32)	(-2.53)
Europe/Canada	1.8	-3.6	-0.5	-1.5	1.38	-3.7	0.64	**-2.0**	-2.07
	(1.02)	(-1.65)	(-0.32)	(-0.66)	(0.83)	(-1.71)	(0.56)	(-2.54)	(-1.72)
Africa	**6.1**	**-8.39**	3.0	**-8.32**	2.9	**-7.7**	**2.6**	-0.22	-0.03
	(2.82)	(-3.24)	(1.49)	(-2.98)	(1.48)	(-2.99)	(1.94)	(-0.23)	(-0.02)
Asia	**12.3**	**-11.4**	**5.9**	**-11.7**	**6.7**	**-11.5**	**5.6**	**-1.24**	**-2.0**
	(8.46)	(-6.5)	(4.31)	(-6.27)	(5.10)	(-6.60)	(6.29)	(-1.98)	(-2.19)
Set of Controls*									
Mexico	**4.4**	-2.5	2.26	-1.4	**5.3**	**-4.2**	0.92	-1.37	0.52
	(2.4)	(-1.13)	(1.2)	(-0.5)	(3.2)	(-2.0)	(0.7)	(-1.69)	(0.4)
CentralAmerica	-0.6	-1.7	-0.06	0.7	**2.7**	2.7	0.95	**-1.48**	**-1.58**
	(-0.47)	(-0.8)	(-0.4)	(0.4)	(2.2)	(-1.7)	(-1.1)	(-2.4)	(-3.0)
Europe/Canada	-2.1	-1.35	-0.9	-1.3	-2.6	-0.07	-1.21	-0.71	-0.187
	(-1.25)	(-0.5)	(-0.5)	(-0.5)	(-1.7)	(-0.01)	(-1.1)	(-0.9)	(-0.16)
Africa	3.5	-3.8	3.0	-1.7	2.7	-1.2	0.6	**-1.86**	-1.16
	(1.75)	(-0.5)	(1.4)	(-0.6)	(1.5)	(-0.5)	(0.4)	(-2.0)	(-0.8)
Asia	**6.3**	-3.8	**5.18**	**-6.6**	**3.4**	**-4.2**	**3.2**	-1.31	-1.92
	(3.7)	(-1.8)	(2.9)	(-2.9)	(2.2)	(-2.0)	(3.0)	(-1.7)	(-1.66)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

7. ARE KNOWN SCHOOL-TO-WORK DISPARITIES DUE TO AN "IMMIGRANT EFFECT" ?

From this analysis, immigrants appear to make different decisions during their school-to-work transition than natives based on a) the length of time they have spent in the United States, b) their country of origin, c) their English skills, and d) college aspirations. However, these immigrant differences may not be distinct within racial groups. Therefore, this chapter will focus on whether the known school-to-work disparities in terms of race change when correcting for the different patterns of immigrants. [41]

RACIAL PATTERNS OF SCHOOL-TO-WORK TRANSITION

Differences in school-to-work paths exist among different race and ethnic groups. And although educational attainment at the time of labor market entry explains a large proportion of the difference among youth in the school-to-work transition, racial and ethnic differences remain after correcting for education,[42] particularly for youth with less schooling (Veum and Weiss, 1993; Tienda and Hotz, 1994; BLS, 1992, 1993; Koretz, 1990). Past research disaggregated youth across broad categories: white vs. non-whites, or whites vs. blacks vs. Hispanics. This analysis, on the other hand, examines whites, Hispanics, blacks, and Asians compared to their immigrant counterparts. Previous analyses have pooled immigrants and natives. This analysis will disaggregate immigrants and natives.

This section specifically asks whether immigrants and natives of the same race have different school-to-work patterns. For example, evidence indicates that Hispanic youth in the United States have less work experience, hold fewer jobs, and spend less time at their longest job held during their school-to-work transition than non-Hispanic whites (Santos and Seitz, 1992; Veum and Weiss, 1993; Tienda and Hotz, 1994;

---

[41] Appendix F reports the findings for the immigrant effect on English as a first language, academic achievement, family income, parent's education, or college aspirations. An immigrant effect was only found in terms of English as a first language.

[42] Post-secondary education diminishes ethnic and gender differences in the transition from school-to-work (Veum, Weiss, 1993; Tienda, Hotz, 1994; BLS, 1992, 1993) and reduces the time between school completion and finding a job (Veum, Weiss, 1993), but does not decrease these differentials consistently (BLS, 1993).

BLS, 1992, 1993). This section investigates whether this is also true for Hispanic immigrants and Hispanic natives, as separate groups.

Previous analyses, which have pooled immigrant and native youth, suggest a racial pattern across various school-to-work outcome measures: white youth accumulate more work experience during their early labor market career than Hispanics, who accumulate more than blacks, who accumulate more than Asian youth (Asians are not included in many of the prior rankings as a unique racial group and are probably categorized as white). For example, between the age of 18 to 30, whites spend 9 years, Hispanics 7.8 years, and blacks 6.9 years working on average, respectively 75%, 65% and 57.5% of the time frame analyzed (BLS, 1992, 1993).

This pattern of performance in the labor market for whites, Hispanics, and blacks is also found in the High School and Beyond Senior Cohort data for those youth who leave school as high school graduates or with some post-secondary education ages 18 to 24 (Table 7.1).[43] In terms of differences found in this analysis across accumulated number of months spent working as a full time activity, Hispanics work on average two and a half months less than whites, blacks work seven months less than whites. Asians, on the contrary, work nine and a half months more than whites over a six year period. On average from 18 to 24, whites work (as a full-time activity) 3.5 years, Hispanics 3.35 years, blacks 2.95 years, and Asians 2.75 years, respectively 58%, 55%, 48% and 45% of the time frame analyzed.[44]

In previous research aggregating natives and immigrant, Asians attend more post-secondary schooling than whites, who attend more than Hispanics and blacks.[45] The racial pattern established in this analysis for post-secondary schooling measures is also Asians. whites. Hispanics. and then blacks. However, this racial pattern holds primarily for combining work with school, since Hispanics and blacks attend roughly the same number of months as whites both in post-secondary schooling as a full-time activity and as a single activity. The specific racial differentials across months spent in school-to-work activities are shown in Table 7.1.

---

[43] The difference in populations does not impact the analysis here for several reasons. The previous analysis did not included high school drop outs, and neither does this analysis. These previous studies did contain those youth who left school initially with a post-secondary degrees. With the longer time-frame, 18-30 years old, these previous analyses could capture this group's transition from school into the workforce. In this analysis, there is a shorter time frame, 18 to 24, years of age, so the transition after post-secondary degree attainment into the work force is not captured. This does not bias the sample or invalidate this analysis because the percentage of those excluded from the sample for this reason were 6% of natives and 5.7% of immigrants. Immigrants and natives have the same likelihood to continue immediately after high school and attain a post-secondary degree.

[44] The lower percentages found in the HSB data are a function of the shorter time frame: 18 to 24 years old vs. 18 to 30 years old. During the younger years youth spend less of their time working.

[45] Vernez, et al. (1996) also found this racial pattern for youth across post-secondary education outcomes.

Examining non-employment and part- vs. full-time patterns in this analysis reveals various racial patterns. Compared to whites, Hispanics in the United States spend three months more than natives non-employed. Hispanics, pooling immigrants and natives, are unemployed one month more and not in the labor force two months more than natives. They also spend 3 months less in full-time employment.[46]

During the school-to-work transition, blacks, in comparison to whites, are inactive in the labor market approximately eight months on average: they are unemployed 3.7 months and not in the labor force 4 months more than whites. Blacks also spend less time working full-time as their sole activity, but the same number of months in post-secondary education as white.[47] Thus, the eight months of inactivity in the labor force impact the amount of time blacks spend working full-time, but not necessarily attending post secondary education.

Asians and whites spend a similar amount of time in non-employment: 2.8 months unemployed and 6.6 months not in the labor force. However, Asians make different trade-offs with work and school. Asians, compared to whites, attend six more months of post secondary education and work 9.7 months less. specifically, Asians work 9 months less at full-time jobs and 2 months more in part time employment than whites. The additional part-time work appears to be combined with school since Asians also combine work with post secondary school 2 months more than whites. Asians also spend 8 months less working as their sole activity and 2.6 months more attending post-secondary school as their sole activity. Thus, compared to whites. Asians trade-off working full-time as a single activity with attending post-secondary education, either as a single activity or combined with part-time work.

---

[46] Hispanics also combine work with post-secondary education 1.3 months less than whites, and work as their sole activity 1.5 months less than whites.

[47] In terms of full-time activities, blacks spend the same number of months attending post secondary education, but 7 fewer months working than whites. Blacks also work 8 months less than whites at a full time job, but the same number of months as whites in part-time jobs. Blacks combine post-secondary education with work 4 months less than whites and work as their sole activity 4 months less, but spend the same number of months in post-secondary education as their sole activity.

In addition to documenting the joint employment and schooling patterns of youth[48] by race in their early labor market career, this analysis also disaggregated immigrants and natives (Table 7.1). Specifically, controlling for immigrant status[49] altered the overall pattern of school-to-work decisions by race for Asians and Hispanics.

Immigrant Hispanics spend more time than native Hispanics attending post-secondary education. Hispanics attend post-secondary school as a full time activity one month less, after correcting for the higher immigrant Hispanic post-secondary school attendance. Moreover, the fewer months that all Hispanics spend combining work with school increases when correcting for immigrants' years in the United States and country of origin . This is occurs since immigrant Hispanics spend more months combining work with school than native-born Hispanics. Immigrant Hispanics also spend fewer months than natives working as their full-time activity[50] or as their sole activity. Together these statistics show that immigrant Hispanics spend more time attending post-secondary education while native Hispanics spend more time active in the labor force. [51] Furthermore, immigrant Hispanics spend less time non-employed than native Hispanics.[52]

Correcting for immigrant behaviors also alters school-to-work patterns for Asians. Accounting for immigrants reduces all of the Asian vs. white differences in school-to-work activities. In terms of school, Asian immigrants account for 3.5 of the additional months Asians spend compared to whites attending post-secondary school and all of the additional 2.6 months spend attending school as a single activity. In terms of working, Asian immigrants account for 3 months of the fewer months spend employed as a full-time activity, 3.5 of the fewer months in full-time employment, all of the 2.3 additional months spent in part-time employment, 2 of the additional months combining work with post-secondary school, and 3 months of the fewer months spent employed as a single activity. As a result, this analysis illustrates that 1) immigrant Asians spend more months in school as their sole activity or combining school with part-time work; 2) immigrant Asians work less full-time, or as a single activity; 3) immigrant Asians spend slightly less time than native Asians unemployed or not in the labor force during their transition. Therefore, native Asians, after correcting for these higher post-secondary school attendance patterns of immigrant Asians, make choices more similar to whites. Native Asians do spend a few more months attending school as a full-time activity than whites, but are no different than whites in terms of combining work with school, or attending school as a single activity, or working in part-time employment. The prior racial differences found across these school-to-work dimensions are attributable to immigrant Asians.

---

[48] Remember that this analysis focuses on high school graduates who first left school without a college degree.

[49] Immigrant is specified by the years spent in the United States and the country of origin.

[50] Immigrant Hispanics account for 0.8 months of the 2.5 fewer months Hispanics spend compared to whites working as a full-time activity.

[51] Immigrant Hispanics work less months in full-time jobs as their sole activity and are in school more, primarily combining post-secondary schooling with part-time work.

[52] This is indicated by the increase in the number of months spend unemployed and not in the labor force when controlling for immigrants' country of origin and years in the United States.

Immigrant patterns of school-to-work activities slightly impact the pattern for blacks. Correcting for immigrant patterns impacts blacks in terms of the number of months spent attending post-secondary education as a full-time activity or as a single activity. Black immigrants, particularly from the Caribbean, bring with them human capital which includes fluency in English, a solid public school education, and a willingness to work hard (Millman, 1996). Therefore, we expect them to perform well in the United States in term of education. Table 7.1 indicates that black immigrants do spend more time attending post-secondary school but that black immigrants and native blacks spend a similar number of months non-employed: 6.5 months unemployed and 10.7 months not in the labor force. Thus, there is a small 'immigrant effect' on the school-to-work pattern of blacks based on the higher percentage of black immigrants who have high educational aspirations and attend more post-secondary schooling.

Controlling for demographics and other attributes -- gender, family income, parent's education, number of siblings, number of children, academic achievement, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college -- changes the schooling and employment patterns by race. The individual and family characteristics impact the patterns of work and school as full-time and single activities, full-time employment, and work combined with school.

And there are no changes in terms of the number of months spent in part-time employment, unemployment, or not in the labor force.

First, the controls erase the differences between Asians and blacks compared to whites in terms of the number of months spent combining work with post-secondary education. Therefore correcting for individual and family characteristics, only Hispanics combine work with school more than whites.

Second, even correcting for the characteristics identified by the controls, whites still accumulate more months of work experience than Hispanics, either working as a full-time activity, full-time employment, or employment as a single activity. Hispanics still accumulate more work experience than Asians and blacks.

Third, blacks switched positions with Asians; after correcting for individual and family traits, blacks have more months work experience, either working as a full-time activity, full-time employment, or employment as a single activity than Asians. Asians, despite their high post-secondary school attendance, spend more time total in the workforce than blacks, because Asians spend time employed in part-time jobs while they are attending school. Asians are employed part-time more often than blacks, Hispanics and whites, who all have similar levels of part-time employment.

In sum, attending school as a full-time activity after correcting for individual and family traits indicates that Asians spend the most time in post-secondary education, with blacks, Hispanics and whites following. Asians and blacks spend their additional time in post-secondary schooling as a single activity, while Hispanics spend their additional months in post-secondary education primarily combined with work, but also as a single activity.

Furthermore, correcting for immigrant characteristics in addition to individual and family traits, primarily alters Asians school-to-work patterns. There are no changes in the school-to-work patterns for blacks or Hispanics. Asian immigrants differ in terms of the amount of time spent in part-time employment, attending post-secondary school as a full-time or single activity, and working full-time or as a single activity. Asian immigrants account for all of the difference in Asian part-time employment and attending post-secondary school as a single activity. Moreover, Asian immigrants account for a) 2 of the 6 months fewer Asians spend employed as their sole activity, b) 2 of the 7 months fewer months Asians spend in full-time employment, and c) 2 months of the additional 4.9 months Asians spend attending post-secondary education. Correcting for immigrant characteristics as well as individual and family traits, Asians natives follow much more similar paths to whites.

Overall, these analyses show that there is an immigrant effect for Asians and Hispanics on certain decisions during the school-to-work transition. Immigrants account for the higher post secondary school attendance and the less time spent working as full time activities for both Asians and Hispanics.[53] But for blacks, the individual and family characteristics, explain the immigrant differences for both schooling and employment decisions.

Summary

This analysis duplicated the racial patterns for school and work as full-time activities and documented the joint school and employment patterns by race. Racial patterns indicate that whites accumulate more work experience during their early labor market careers than Hispanics. In turn, Hispanics accumulate more than blacks, and then Asians. In terms of schooling be it combining work with school, attending school as a single activity, or as full-time activity, Asians attend more post-secondary education than whites, Hispanics and blacks.[54] Blacks spend eight more months unemployed or not in the labor force than whites, Hispanics three months more, while Asians and whites spend a similar amount of time non-employed. Whites, Asians, blacks, and Hispanics make different trade-offs in terms of school, work, and non-employment. With blacks and Hispanics accumulating less work experience and attending less post-secondary education overall making them much more of a concern in terms of their activities during the transition from school-to-work than whites or Asians.

---

[53] Asian immigrants, despite the correction for family and individual characteristics, still account for the higher post secondary school attendance and the less time spent working as full time activities, as well as, the additional number of months Asians spend working at part-time jobs, and the fewer months spent working in full-time employment or being employed as their sole activity.

[54] More specifically, the racial pattern for post-secondary schooling measures is Asians, Whites, Hispanics, and then Blacks for months spent combining work with school, while Hispanics and Blacks are the same as Whites in terms of the months they spend in post-secondary schooling as a full-time activity or as a single activity . Asians spend more time in school and work less, particularly in full-time jobs.

The school-to-work patterns of Hispanics and Asians change when correcting for immigrant and native differences.[55] Immigrant Hispanics spend more months than native Hispanics attending post-secondary education and combining work with school, but spend fewer months employed as a full-time or single activity. Immigrant Hispanics prefer attending post-secondary school, be it combined full-time work, over working as a full-time or single activity. Overall native Hispanics fare worse in terms of accumulated work experience when accounting for the higher participation of immigrant Hispanics in post-secondary education, primarily combined with school.

Asian school-to-work paths compared to whites are altered after correcting for immigrant and native differences. Immigrant Asians trade-off time spent in school with time in the labor force,[56] whereas the native Asian population primarily attends post-secondary school combined with part-time work. Immigrant Asians spend more months in school as their sole activity , combine a few months of school with part-time work, while working less full-time, or as a single activity. Native Asians fare better in terms of accumulated full-time work experience when accounting for the higher occurrence of attending school as a single activity by immigrant Asians. Therefore, native Asians, after correcting for the higher post-secondary school attendance of immigrant Asians, appear to make choices more similar to whites.

---

[55] The racial ranking of employment changes from Whites, Hispanics, Blacks and Asians in terms of accumulating the most to the least work experience to Whites, Hispanics, Asians and Blacks when accounting for the different behavioral paths of immigrants. The racial ranking for post-secondary school attendance changes from Asians, Whites Hispanics and Blacks in terms of the most to least number of months attending post-secondary school to Asians, Whites, Blacks and Hispanics when accounting for the different paths of immigrants.

[56] Asian immigrants also spend slightly less time than native Asians unemployed or not in the labor force during their transition from age 18 to 24.

Table 7.1: Immigrants impact the Racial Differences across School-to-Work Paths

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Intercept: White	13.2	42.7	13.5	35.0	14.8	34.5	6.6	2.8	6.6
Hispanic	-0.6 (-1.0)	**-2.5** (-3.8)	0.16 (0.3)	**-2.9** (-4.1)	**-1.35** (-2.7)	**-1.49** (-2.2)	-0.2 (-0.8)	**1.16** (4.9)	**1.9** (5.4)
Asian	**6.15** (6.5)	**-9.7** (-8.8)	**2.32** (2.6)	**-9.0** (-7.5)	**1.97** (2.3)	**-8.2** (-7.3)	**2.6** (4.6)	**0.9** (2.4)	1.01 (1.67)
Black	-0.8 (-1.76)	**-7.3** (-12.4)	-0.55 (-1.1)	**-8.2** (-13.0)	**-4.4** (-9.8)	**-4.4** (-7.4)	**0.65** (2.1)	**3.74** (17.8)	**4.11** (12.7)
RACE CONTROLLING FOR:									
Immigrant Specification *									
Hispanic	**-1.38** (-2.3)	**-1.7** (-2.4)	0.02 (0.04)	**-2.49** (-3.2)	**-2.37** (-4.4)	-0.2 (-0.2)	-0.5 (-1.4)	**1.45** (5.7)	**2.21** (5.7)
Asian	**2.7** (2.3)	**-6.8** (-5.1)	0.41 (0.38)	**-5.5** (-3.8)	0.22 (0.2)	**-5.24** (-3.8)	0.83 (1.19)	**1.4** (3.1)	1.77 (1.24)
Black	**-1.09** (-2.1)	**-7.2** (-12.1)	-0.67 (-1.4)	**-8.1** (-12.7)	**-4.5** (-10.1)	**-4.3** (-7.2)	0.58 (1.88)	**3.8** (17.9)	**4.16** (12.7)
Set of Controls **									
Hispanic	**1.9** (3.0)	**-2.8** (-3.6)	0.8 (1.2)	**-2.6** (-3.1)	**1.7** (2.9)	**-3.6** (-4.7)	**1.0** (2.4)	0.11 (0.38)	0.16 (0.38)
Asian	**4.9** (5.4)	**-7.5** (-6.8)	**2.4** (2.5)	**-7.3** (-6.0)	1.53 (1.89)	**-6.15** (-5.7)	**1.98** (3.4)	**0.8** (1.99)	0.69 (1.13)
Black	**3.7** (7.23)	**-8.8** (-13.6)	0.5 (0.9)	**-8.4** (-12.0)	0.3 (0.69)	**-8.18** (-13.1)	**2.84** (8.4)	**2.01** (8.5)	**0.96** (2.71)
Immigrant Specific. & Controls									
Hispanic	**2.27** (3.4)	**-3.2** (-3.9)	1.07 (1.5)	**-3.28** (-3.7)	**1.5** (2.6)	**-3.7** (-4.7)	**1.21** (2.8)	0.08 (0.28)	0.13 (0.3)
Asian	**2.8** (2.7)	**-6.2** (-4.8)	0.78 (0.7)	**-5.07** (-3.5)	0.64 (0.68)	**-4.8** (-3.9)	0.8 (1.2)	**1.11** (2.3)	1.23 (1.7)
Black	**3.7** (7.0)	**-8.8** (-13.5)	**0.44** (0.8)	**-8.5** (-11.9)	0.22 (0.48)	**-8.1** (-13.0)	**2.84** (8.3)	**2.07** (8.7)	**1.00** (2.7)

NOTE: The outcomes are accumulated months of an experience:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The immigrant specification includes all countries of origin, 10 to six years and 1 to 5 years in the United States.

** The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

8. CONCLUSIONS AND POLICY IMPLICATIONS OF THE DIFFERENT SCHOOL-TO-WORK PATTERNS FOR IMMIGRANTS AND NATIVES

Policymakers, educators, parents, and employers are concerned over the school-to-work transition of youth. Their main focus has been in terms of youth's lack of work experience and the impact of their limited work experience on their future career and employment stability. With immigrants representing a growing proportion of the youth population, it is important to understand how the different choices immigrants make and the different paths that they follow during their transition from school into the workforce impact the current concerns and focus surrounding the school-to-work transition. With their growing presence among youth, the different paths followed by immigrant youth, and various sub-groups of immigrants, impact how policy makers, educators, or employers need to think about assisting youth from their transition out of school and into the workforce.

School-to-work concerns have focused on youth not accumulating work experience in the labor force and hence has focused primarily on assisting youth in acquiring work experience. The concerns over youth's lack of work experience have broadly pertained to youth's risk of non-employability, lack of career opportunities, job mismatches, and their evaluation of time: work vs. leisure. Moreover, the perception is that immigrants, and particularly Hispanic immigrants, work less than their native counterparts and are therefore faring worse during their transition from school into the workforce.[57] With immigrants as an increasing fraction of students and of those entering the labor force, depending how immigrants fare during their transitions, the number of youth having difficulty during their transition from school into a stable job may increase. Furthermore, focusing only on accumulating work experience does not elaborate the full range of choices made by youth, be it immigrant, native, or Hispanic youth.

For immigrants, who are educated for at least a portion of their schooling in the United States, and for natives, both of whom initially leave school as high school graduates or with some post-secondary education, measuring only the accumulated amount of work experience does not depict the paths they generally follow during their school-to-work transition. Natives work three and a half years (60%) of their first six years after high school, while immigrants work three years and four months (55%) (Refer to Figure 5.1). Further analyzing the school-to-work transition in terms of the trade-offs between 1) work, school and non-employment, 2) combining work with school or either work or school as a single activity, and 3) in terms of full-time or part-time employment combined with or without post-secondary schooling, elaborates a broader and more detailed range of the choices made by immigrant and native youth once they leave school and enter the workforce. These findings and their implications are summarized as follows.

---

[57] A study by the Latino Urban Policy Agenda indicates that US-born Latinos fare consistently better than their foreign-born counterparts in median incomes, proficiency in English, and participation in the workforce (LA Times, 5-30-96)

SUMMARY OF FINDINGS

- Immigrant youth are spending their time in school and combining work with school
- Immigrant youth return to school more quickly and more often
- Immigrant youth stay in school longer, but do not necessarily attain degrees at higher rate
- More immigrants aged 18-24 move directly between jobs without intermittent periods of schooling or non-employment than their native counterparts
- Natives who left school as high school graduates or with some post-secondary education accumulate more non-employment than their immigrant counterparts during their school-to-work transition
- Immigrant differences during the school-to-work transition primarily result from recent immigrants, Asian immigrants, and Hispanic immigrants
- Immigrant Hispanics combine school with full-/part-time employment, while native Hispanics work full-time as their sole activity
- Black Immigrants attend more post-secondary education than native blacks.
- Immigrant Asians, more than native Asians, combine school with part-time work, attend post-secondary school as their only activity, and are employed full-time. Thus, native Asians follow similar paths to whites.

POLICY IMPLICATIONS

1. Lack of work experience during the transition from school-to-work is not a policy concern for immigrant youth who initially leave school as high school graduates or with some post-secondary education, because they spend most of their time attending post-secondary education when they are not in the labor force or combining work with employment. Instead low accumulated work experience remains a large concern for their native Hispanic and black counterparts.

Immigrants spend more of their time attending post-secondary education, when they are not working or combining work with employment. This pattern holds also within racial groups. Immigrant Hispanics combine school with full- and part-time employment, while native Hispanics work full-time as their sole activity. Black immigrants attend more post-secondary school than native blacks. Asian immigrants also combine work with part-time employment and attend post-secondary school as their only activity more than native Asians. Thus, pooling immigrant and native youth in analyses concerning school-to-work activities can lead to misleading results.

Past research, controlling for individual and family characteristics, has pooled immigrants and natives within racial groups leading to Whites accumulating the most work experience, then Hispanics, Blacks, and Asians. In terms of post-secondary schooling, Asians have spent the most time in school, then whites followed by Hispanics and Blacks. However, also controlling for immigrant status, leads to a different positioning for Asians and whites. Whites accumulate the most work experience than Asians, then Hispanics, and blacks. In terms of schooling, Asians spend the most time in school, than blacks, Hispanics, followed by whites.

In general, expectations were that immigrants, particularly Hispanic immigrants, were faring poorly in the school-to-work transition, but in fact the opposite is true. Native Hispanics and blacks, rather than immigrants, remain the largest concern in terms of work experience and attending post-secondary school.[58]

---

[58] This pattern of increased post-secondary education by immigrants was also found by Vernez, et al (1996). Also the racial patterns of schooling and employment, particularly in terms of Mexicans and Asians, were also found in Schoeni, et al. (1996)

Moreover, the pattern of negative educational assimilation also indicates that native Hispanics and blacks, rather than for immigrants, ease less smoothly into the workforce. Negative education assimilation across generations for immigrant youth was also identified by Vernez, 1996. Among high school graduates who leave school and enter the workforce, native Hispanics and blacks are the groups who accumulate the least amount of work experience, not immigrants. Therefore the risk of non-employability is much higher for native Hispanics and blacks than for immigrants.

Because immigrant youth spend additional time pursuing post-secondary education, employers may not view their "lack of work experience" as a signal of non-employability or view them as a high risk investment. Post-secondary education is a positive signal to employers because it is a signal of human capital accumulation, motivation, and perseverance. Employers tend to value human capital accumulation from post-secondary education in terms of the amount of time spent, the degree attained, and the skills acquired. Therefore, the concern over non-employability for immigrants who initially left as high school graduates or with some post-secondary education is less than for their native counterparts who spend more time in the labor force and not in post-secondary education.

Although a lack of work experience is not a characteristic of the school-to-work transition of immigrant youth who initially leave school as high school graduates or with some post-secondary education, it may still be a problem for immigrants who did not complete high school or for those immigrants who never 'dropped into' the American school system. This analysis, however, was not able to address the school-to-work concerns for of these populations (refer to Appendix A). Further analysis for these populations is needed.

2. There is no additional need, over and above what is already in place, for targeted assistance for immigrants during their school-to-work transition.

An immigrant's school-to-work transition appears at least as smooth as a natives. Among youth who left school as high school graduates or with some post-secondary education and returned, which is roughly 75 percent of youth, immigrants return to post-secondary schooling at a higher rate and accumulate more post-secondary education during their school-to-work transition. Immigrant youth also stay in post-secondary schooling longer than natives once they have returned to school. Additionally, immigrant and native youth appear to attain post-secondary degrees at a similar rate. Thus, strategies for access, retention and degree attainment already in place reach immigrants just as effectively as they do natives. There is no need for additional assistance targeted toward immigrants or immigrant subgroups.

3. Since immigrants pursue more post-secondary education, their growing presence among youth will increase the demand for post-secondary education.

Immigrants pursue more post-secondary education. Therefore, their growing presence among youth will increase the numbers of students attending post-secondary institutions. To target this increasing portion of youth, policy makers should incorporate college and university options into school-to-work programs. If school-to-work programs are designed without a college focus or a college-base than an increasing portion of the youth population in their transition will not view school-to-work programs as a viable option. School-to-work programs without a college option would therefore be unattractive to immigrants, a growing sub-group of the youth population.

Moreover in this analysis and in Vernez (1996), there is evidence that recent immigrants, i.e. those youth in the United States education system for all or part of their high school years, have an even higher level of motivation for pursuing college than other immigrant groups as well as natives. This increasing presence of recent immigrants in colleges and universities potentially raises the demand for remediation and English as a Second Language classes to ensure that these students are successful and that academic standards are maintained. Inadequate language skills are the most outstanding problem shared by immigrants in higher education (Gray, 1996). The potential increased demand for remediation and English language instruction would impact staffing, resources, and other institutional activities, such as testing, across all community college campuses and four-year institutions.

4. High rates of combining work and school, particularly for Hispanic immigrants who combine school with full-time work and Asian immigrants who combine school with part-time work, impact both the quality of the work experience acquired in the early years and the quality of the school work performed.

A large portion of youth nowadays combine work and school, however, immigrants combine work with school more often than natives. Immigrants combine work with school 17 months since they began their transition into the workforce and during the first six years after high school compared to natives who combine work with school 13 months during the same period. In addition, it is Mexicans and Central Americans who combine work with school for a year and a half and Asians for 20 months. Also Central American immigrants tend to combine school with full-time work, Mexicans with part-time work, and Asian immigrants with part-time work.

Combining work with post-secondary education potentially impacts the quality of youth's work experience, academic performance, and ability to attain a degree. Although immigrant youth are not moving between non-employment and employment, there is still a concern for some immigrant youth, particularly Asians, in terms of the quality of the work experience they acquire. This concern is not necessarily in terms of low wages, but more in terms of part-time jobs which are sensitive to cyclical movement and do not offer job opportunities. Job quality during the early career is a larger concern than the lack of work experience, particularly for immigrants.

These concerns over job quality are particularly acute if part-time employment is combined with post-secondary education and the individual does not attain their post-secondary degree. Without the additional value of the degree, the experiences and skills acquired during the early labor market career through part-time employment could hinder their future ability to find a job and start a career.

Part of the transition from school into the workforce is searching for a good job or career match. Searching for a good job match has been an explanation for why youth have a high switching rate from job to job. Immigrant youth do change directly into a new job without intermittent periods of non-employment, however, the evaluation of finding a good job match if the job is combined with post-secondary education, is potentially quite different. An individual would also weigh in how the job, in terms of hours for example, fits into their class schedule and provides them with income, with less concern perhaps for the 'long run' evaluation of the opportunities of the job and the skills acquired. Thus, jobs combined with schooling are potentially serving a different function and are based on different reasons. And if jobs combined with school are of 'less' quality in terms of employment and a career then the high occurrence of combining work with school for immigrants, particularly Hispanics and Asians, emphasizes the potential concerns over job quality associated with combining work with post-secondary schooling.

Combining work with post-secondary school also potentially impacts youth's performance in higher education. Previous research (Greenberger and Steinberg, 1986) identified some adverse consequences of youth working while in high school as a result of the job conflicting with the student's performance in high school. For example, working causes students to be tired or late, take fewer courses, and have lower grades. Stern (et. al., 1990) also constructed a "conflict" index by averaging scores on several items such as the job's affect on grades, homework, courses taken, preparation for class, feeling tired in class, and desire to stay in school. Stern found that work negatively impacted some aspects of high school performance. Other research (Stasz and Quigley, forthcoming 1996) looked at the interaction between hours worked and high school performance. Research in this area has focused on working while in high school, particularly in connection with the work experience provided by school-to-work programs, and not work during college years. However, the same impacts of time pressure and job demands may apply toward post-secondary school. Therefore, combining work with school during the transition also may impact student's performance in college and their ability to attain a degree. Further research is needed to decipher the extent to which combining work and post-secondary schooling is a concern for youth in terms of hindering their attainment of degrees or establishing a career, particularly since a growing portion of youth will be following this path in the future.

CONCLUSIONS AND FURTHER RESEARCH

These findings and policy implications apply to those youth who left school as high school graduates or with some post-secondary education pursing their transition from school into the workforce by accumulating work experience, returning to post-secondary school, combined or as a single activity, or by not participating in the labor force. Further research is needed to understand the patterns and decisions of immigrant vs. native youth who are high school drop outs, or those immigrants 'who never dropped in' to the American school system, or those who never leave school before attaining a post-secondary degree. Other research has indicated that the youth who are least equipped during their school-to-work transition are high school drop outs. The expectation is that immigrants who never drop in to the American school system fare as well or worse as high school drop outs, but further research is needed to investigate their patterns and behaviors.

Moreover, based on the evidence that immigrants have a higher motivation to pursue and persevere in post-secondary education, found here and in Vernez (1996), it is expected that immigrants who immediately go onto college and attain a degree before their transition into the workforce will fare at least as well if not better than their native counterparts. Immigrants and natives appear to continue on after high school and attain post-secondary degrees at the same rate. A similar percentage of immigrants and natives were restricted from this sample because they initially left school with a post-secondary degree: 6.3 percent of natives and 5.7 percent of immigrants left school initially with a post-secondary degree (Refer to Table A.7). Analyzing the school-to-work patterns of immigrant and native youth who initially leave school with post-secondary degrees, i.e., from the age of 23 until 30 years of age, would be of interest in understanding the different behaviors of immigrant and native youth as well as provide more context for the findings of this analysis.

In conclusion, immigrants who initially leave school as high school graduates or with some post-secondary education differ from natives in the paths they follow during the transition from school to work. Immigrant youth fare better than natives during their school-to-work transition in that they spend less time in non-employment, or moving between employment and non-employment, and more time pursuing post-secondary education. Native Mexicans and blacks however proceed to fare the worst during the school-to-work transition in terms of unemployment and not being in the labor force. The expectations were that immigrants would fare the worst in terms of work experience during the school-to-work transition, but the opposite is true. Thus the concerns of policy makers, educators, and employers concerning a lack of work experience should be refocused from immigrants toward native Hispanics and blacks.

These differing paths followed by immigrant youth and their increasing numbers among the youth population heighten the importance of ensuring college as a focus in school-to-work programs and meeting the increased demand for post-secondary education. Immigrants also fare at least as well as natives in terms of access to post-secondary institutions, college retention and degree attainment indicating that there is no additional need over and above what is currently provided, for targeted assistance for immigrants.

But tackling issues of job quality among youth who combine work with school and further understanding the potentially negative impact of combining work with post-secondary schooling is a growing need. As is, understanding the school-to-work patterns of high school drop outs, those immigrants who never dropped into the American school system, and immigrants and natives who initially leave school with post-secondary degrees.

BIBLIOGRAPHY

Apling, Richard. Youth Apprenticeships: Improving School-to-Work Transition for the "Forgotten Half". Congressional Research Service report for Congress. 92-960 EPW. December 1992.

Barclay, S. Schooling and Work Among Youths from Low-income Households: a baseline report from the Entitlement demonstration. Manpower Demonstration Research Corporation. New York. 1979.

Becker, Gary. Human Capital: A theoretical and Empirical Analysis, with Special Reference to Education. Chicago: University Chicago Press. Third Edition. 1975.

Blau, Francine D. "The Use of Transfer Payments by Immigrants". Industrial and Labor Relations Review. Vol. 37, No. 2 (January 1984), pp. 222-39.

Borjas, G. "National Origin and the Skills of Immigrants in the Postwar Period," in Immigration and the Workforce. G. Borjas and R. B. Freeman (eds.). University Chicago Press. 1992. pp. 17-47.

Borjas, G. "The Economics of Immigration." Journal of Economic Literature. Vol. 17. (Dec. 1994), pp. 1667-1717.

Breneman, David. "Sweeping Painful Changes," The Chronicle of Higher Education The Chronicle of Higher Education. Vol. 42, pp. B1-B2, September 8, 1995.

Brown, C. "Dead-end Jobs and Youth Unemployment," Chapter 12 in Freeman R. and Wise D. (eds.) The Youth Labor Market Problem: Its Nature, Causes, and Consequences. (Chicago and London: The University of Chicago Press). 1982. pp. 427- 451.

Bureau of Labor Statistics. "Work and Family: Jobs Held & Weeks Worked by Young Adults." Report 827. August 1993.

Bureau of Labor Statistics. "Work & Family: Turning Thirty -- Job Mobility & Labor Market Attachment," United States Depart. of Labor. Report 862. Dec. 1993.

Clark, Kim and Summers, Lawrence. "Labor Market Dynamics and Unemployment: A Reconsideration." Brookings Papers on Economic Activity, No. 1, pp. 13-72. 1979.

Coleman, James S. "The Transition from School-to-work". Research in Social Stratification and Mobility. Vol. 3. pp. 27-59. 1984.

Congressional Research Services. Youth Apprenticeships: Improving the School-to-work Transition for the Forgotten Half. Report No. 92-960-EPW. 1992.

Council of Chief State School Officers. Recommendations for Improving the Assessment and Monitoring of Students with Limited English Proficiency. 1992.

D'Amico, Roncal and Nan L. Maxwell. "Employment during the School-to-Work Transition: An Explanation of Black and White Differentials and Bifurcation of Black Income." Paper presented at 1990 PAA Meeting in Hayward, CA. 1990.

Feldstein, M. "The Economics of the New Unemployment," Public Interest. Vol. 33. 1973. pp. 3-42.

Fernandez, R. ,Paulsen, R., and Hirano-Nakanishi, M. "Dropping out Among Hispanic Youth." Social Science Research. (March 1989), pp. 21-52.

Freeman R. and Wise D. (eds.) The Youth Labor Market Problem: Its Nature, Causes, and Consequences. (Chicago and London: The University of Chicago Press). 1982.

Freeman, R. and Holzer, H. "The Black Youth Employment Crisis: Summary of Findings." in Freeman and Holzer (eds.), The Black Youth Employment Crisis. Chicago: University of Chicago Press. Freeman, Richard B. and David A. Wise. 1982

Heckman, J. J. and Singer, B. Longitudinal Analysis of Labor Market Data. Cambridge University Press. 1985.

Hirschmann, Charles. "Minorities in the Labor Market." In Gary D. Sandefur and Marta Tienda (eds.) Divided Opportunities: Minorities, Poverty, and Social Policy. New York: Plenum Publishers. 1988.

Holsinger D. B. and Fernandez R. M. "School-to-work Transition Profiles: Mexican American and Non-Hispanic White High School Graduates," SSR Vol. 71. No. 3. April, 1987. pp. 211-220.

Klerman J. and Karoly L. Long Jobs AND Lots of Jobs? Presented for "Early Labor Market Experiences" session of Western Economic Association International Meeting, Vancouver, British Columbia June-July 1994.

Klerman J. and Karoly L. The Transition to Stable Employment: The Experience of U.S. Youth in their Early Labor Market Experience. (Santa Monica, California: RAND Corporation) DRU-712-IET/NCRVE. 1995.

Koretz, D. Trends in the Post-secondary Enrollment of Minorities. (Santa Monica, California: RAND Corporation) R-3948-FF. 1995.

La Londe, R. J. and Topel, R. H. "The Assimilation of Immigrants in the United States Labor Market," in Immigration and the Workforce. G. Borjas and R. B. Freeman (eds.). University Chicago Press. 1992. pp. 67-92.

"Study Points to Differences in Latino Groups". Los Angeles Times. 5-30-96.

Lynch, Lisa M. "The Economics of Youth Training in the United States." The Economics Journal, pp. 1292-1302. 1993.

Lynch, Lisa M. "The Youth Labor Market in the Eighties: Determinants of Re-employment Probabilities for Young Men and Women." Review of Economics and Statistics, February. pp. 39-45. 1989.

Maddala, G. S. Limited-Dependent and Qualitative Variables in Econometrics. Cambridge University Press. 1983.

Mare, R. and Winship, C. "The Paradox of Lessening Racial Inequality and Joblessness Among Black Youth: Enrollment, Enlistment, and Employment 1964-1981". American Sociological Review. Vol. 49. pp. 39-55. 1984.

Mare, R., Winship, C., and Kubitschek, W. "The Transition from Youth to Adult: Understanding the Age Pattern of Employment." American Journal of Sociology. Vol. 90 No. 2 pp. 336-351. 1984.

Martini, Alberto. "Seam effect, Recall Bias, and the estimation of labor force transition rates from SIPP". American Statistical Association, Proceedings of the Survey Research Methods. Alexandria, VA. pp. 387-392. 1989.

McCarthy, Kevin and R. Burciaga Valdez. Current and Future Effects of Mexican Immigration in California . (Santa Monica, CA: RAND). R-3365-CR, 1986.

McDonnell, L. M., and P. T. Hill. Newcomers in American Schools: Meeting the Educational Needs of Immigrant Youth. (Santa Monica, CA: RAND). MR-103-AWM/PRIP, 1993.

Millman, J. "Ghetto Blasters: Parts of the New York Ghettos are coming back to economic life. Thanks to immigration." Forbes. February 12, 1996. Vol. 157. No. 3. pp. 76-82.

Mincer, J. Schooling, Experience, and Earnings. Columbia University Press. National Bureau of Economic Research. New York. 1974.

Mortimer, J. and Finch, M. "Work Experience in Adolescence." Unpublished report prepared for Public/Private Ventures, Philadelphia, PA. 1992.

Nolfi, G. et al. Experiences of Recent High School Graduates: The Transition to Work of Post Secondary Education. Lexington Book Series. Lexington, MA. 1978.

Oppenheimer, V and Kalmijn, M.. "Life-cycle Jobs, Race, and the Youth Labor Market," Department of Sociology, University of California, Los Angeles. Paper present at the Annual Meetings of the Population Association of America held March 30, 1989.

Osterman P. and Iannozzi M. "Youth Apprenticeships and School-to-work Transitions: Current Knowledge and Legislative Strategy," Working Paper No. 14. (Philadelphia: National Center on the Educational Quality of the Workforce). 1993.

Osterman P. Getting Started: The Youth Labor Market. (Cambridge: MIT Press). 1980.

Rees, Albert. "An Essay on Youth Joblessness." The Journal of Economic Literature. Vol. XXIV (2), pp. 613-628. 1986.

Rivkin, Steve G. "Black and White Differences in Schooling and Employment". The Journal of Human Resources. Vol. 2. No. 4. 1995.

Romero, Migdalia. Roundtable Report on Immigrant Issues in Higher Education, prepared for the Andrew W. Mellon Foundation, New York, 1991.

Rosenbaum James E., et el.. "Market and Network Theories of the Transition from School-to-Work: Their Application to Industrialized Societies," Annual Review of Sociology. Vol. 16. 1990. pp. 263-99.

Rosenbaum J. E. "What if Good Jobs Depended on Good Grades?," American Educator. Vol. 13. No. 4. 1989. pp. 10-15, 40, 42-43.

Rumbaut, R. G. "Immigrant Students in California Public Schools: A Summary of Current Knowledge". Report No. 11. Baltimore, Md.: Center for Research on Effective Schooling for Disadvantaged Students, August 1990.

Santos. R. and Seitz. P. "School-to-Work Experience of Hispanic Youth." Contemporary Policy Issues. Vol. 10. Oct. 1992. pp. 65-73.

Scarpaci. Joseph L., Fradd. Sandra H. "Latin-Americans at the University Level: Implications for Instruction", Journal of Multicultural Counseling and Development. Vol. 13, 1985. pp. 183-189.

Schoeni, R., McCarthy, K., Vernez, G. The Mixed Economic Progress of Immigrants. (Santa Monica. California: RAND Corporation), MR-763-IF/FF, 1996.

Shires, Michael A. The Master Plan Revisited (Again): Prospects for Providing Access to Public Undergraduate Education in California. (Santa Monica, California: RAND Corporation), DRU-965-LE, 1995.

Simon, Julian L. The Economic Consequences of Immigration. 1989.

Smith, J. P. Hispanics and the American Dream: An Analysis of Hispanic Male Labor Market Wages: 1940-1980. (Santa Monica, California: RAND Corporation), 1996.

Statistical Abstract of the United States. (United States Department of Commerce. Bureau of the Census). 110th Edition. 1990. Table No. 5. pp. 9.; 113th Edition. 1993. Table No. 54. pp. 50.; 114th Edition.. 1994. Table No. 5. pp. 10.

Stern, D., Finkelstein, N., Stone, J. R., Latting, J., Dornsife, C. School-to-Work: Research on Programs in the United States. (London and Washington DC.: The Falmer Press). NCRVE Publication. The Stanford Series on Education and Public Policy, #17. 1995.

Stewart, D. W. Immigration and Education: The Crisis and Opportunities. (Ontario: Lexington Book Series, Macmillan, Inc.) 1993.

Sue, Stanley, and Nolan W. S. Zane. "Academic Achievement and Socio-emotional Adjustment Among Chinese University Students," Journal of Counseling Psychology, Vol. 32., No. 4, 1985. pp. 570-579.

Tienda M. ,Hotz, J. V. "Initial Labor Market Experiences of Black, Hispanic and White Men," Discussion Paper. Population Research Center. (Chicago and London: The University of Chicago Press). June 1994.

Topel, R. H. "Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority." Journal of Political Economy. Vol. 99 (1). pp. 145-176. 1991.

Topel , R. H. and Ward, M. "Job Mobility and the Careers of Young Men". Quarterly Journal of Economics. May 1992. pp. 439-79.

Veum, J. and Weiss, A.. 1993. "Education and the work histories of young adults," Monthly Labor Review. Vol. 116. No. 4. April 1993. pp. 11-20

Vernez, G. and Abrahamse, A. with Denise Quigley. How Immigrants Fare in U.S. Education. (Santa Monica, California: RAND Corporation), MR-718-AMF, March 1996.

APPENDIX A: THE DATA, SAMPLE RESTRICTIONS, AND FINAL ANALYSIS SAMPLE

OVERVIEW

This appendix describes the data source, the logic of the definitions and event histories, the sample restrictions, as well as the final analysis sample. The first section describes the relevance of the High School and Beyond Senior Cohort of 1980 for this analysis, the sampling design, and the data collection. The second section defines why and how the data are categorized according to a school leaving group, not by the traditional educational attainment groups; it also describes how the schooling event histories are built. The third section explains the logic of the employment event histories. The fourth section discusses the sample restrictions and the number of observations lost as a result of these restrictions. The fifth section considers an additional restriction based on the sample sizes of the school leaving groups, lays out the final analysis sample as well as the unweighted, weighted, and reweighted percentages of the original sample by school leaving group. This section also compares the composition of the final analysis sample with the dropped observations to reveal any biases which could result from imposing the sample restrictions.

THE HIGH SCHOOL AND BEYOND DATA

This analysis uses the High School and Beyond (HSB) Senior Cohort of 1980 as its data source[59] because of its wealth of information on school, work, personal characteristics, language and nativity. HSB provides information on the educational, vocational, and personal development of young people as they move from high school into the work force and then into adult life. More specifically, HSB contains sufficient information to build monthly employment and schooling event histories for immigrant and native youth leaving American high schools.

---

[59] Several longitudinal data sources do not contain the required sample sizes or variables to investigate this issue:

The National Longitudinal Survey of Youth (NLSY) has a limited number of immigrants in the sample; National Educational Longitudinal Survey (NELS) is not old enough to have followed its respondents for a sufficient period of time to study their transition into the labor force and does not include nativity; Panel Study of Income Dynamics (PSID) does not include nativity.

In brief. HSB collected data on high school seniors and sophomores in 1980. Follow-up surveys were conducted in 1982. 1984, 1986, and 1992. The Seniors were on average 18 years old in 1980: thus, these Seniors were followed until they were age 24 in 1986 and age 30 in 1992. Three waves of the Senior Cohort data (1980-1986) will be used for this analysis.[60]

Study Design and Data Collection

The HSB study design employed a two-stage highly stratified sample design with secondary schools as the first stage units and students within schools as the second stage units of selection. Certain types of schools were over sampled to make the study more useful for policy analyses: Catholic schools with a high percentage of minority group students; Catholic schools with a high percentage of Hispanic students; alternative schools; and private schools with high-achieving students. Within each school, 36 seniors and 36 sophomores were randomly selected in each school. In schools with fewer than 36 students in either of these groups, all eligible students were selected. The base year of this survey, which was conducted early in 1980, collected data from over 30,000 sophomores and 28,000 seniors enrolled in 1,015 public and private high schools.[61] The parents and teachers of each student were also interviewed.

The longitudinal design of the study called for follow-up surveys of substantial subsets of the two cohorts at two-year intervals. Data collection for the first follow-up began in 1982 and then continued in 1984, 1986, and 1992. The three follow-ups retained the multi-stage, stratified and clustered design of the base-year sample. The first follow-up survey conducted in 1982 sampled 11,500 seniors from the 28,240 base year participants, 495 seniors from the 6,741 non-base year participants, and 29,700 sophomores. The second follow-up in 1984 sampled 11,995 seniors (11,500 base year participants and 495 non-base year participants) and 14,800 sophomores. The 1986 and the 1992 follow-up also collected data from 11,995 seniors and 14,800 sophomores.

---

[60] The 1992 survey wave of HSB has been restricted by the Department of Education; only requested crosstabulations are available. This is not sufficient to perform the analysis for this report.

[61] The initial national sample for High School and Beyond was considerably larger than that employed in National Longitudinal Sample of 1972 (NLS-72).

Table A.1 displays the contents of HSB for the Senior cohort for the base year, first, second, and third follow-up surveys. The HSB data collection instruments in the base-year survey included: 1) sophomore and senior student questionnaires with a series of cognitive tests, 2) school questionnaires filled out by an official in each participating school, 3) teacher comment checklists filled out by a teacher of the sampled student, 4) second language questionnaires, and 5) parent questionnaires filled out by a sample of parents from both cohorts.

Table A.1: Information Contained in the Senior Cohort of the High School & Beyond Survey

Information available:	1980	1982	1984	1986
Student Survey:				
Immigrant Status	X			
Number of years in the US	X			
Origin	X			
Race	X			
Parent's Education	X			
Family Income	X			
Post High School Experiences	--	X	X	X
Work Experiences	X	X	X	X
Work Aspirations	X			
Language Survey:				
Language spoken at home	X			
Base Year English Ability	X			
Reading, Writing in non English Language (1-6, 7-9,10-12 grade)	X			
ESL taught in 10,11,12 grade	X			
Mother Tongue taught 10-12 grade	X			
Cognitive Tests:				
Abstract/Non-verbal Abilities	X			
Parent Survey:				
Family Attitudes/Rules	X			
Financial Plans for Education	X			
School Survey:	X			
High School Drop Out Rate	X			
High School Type and Urbanity	X			
High School Enrollment	X			
District per Pupil Expenditure	X			
School per Pupil Expenditure	X			
Miles from VocEd/Business Sch'l	X			
Miles from Junior College	X			
Miles from 4 year institution	X			
Labor Market Indicators:				
SMSA Level:				
Employment Growth in 80-82	X			
Unemployment Rate, 80-82	X			
Manufacturing Wage, 80-82	X			

The student questionnaires focused on individual and family background, high school experiences, work experiences, and future plans. Cognitive tests administered to students measured both verbal and quantitative abilities. Sophomore tests included brief achievement measures in science, writing, and civics, while seniors were asked to respond to tests measuring abstract and nonverbal abilities. The parent questionnaire elicited information about how family attitudes and financial planning affect education goals. The school questionnaire gathered information about enrollment, staff, educational programs, facilities and services, dropout rates, and special programs for handicapped and disadvantaged students. The teacher comment checklist provided teacher observations on students participating in the survey. In addition, the second follow-up in 1984 included a Post Secondary Education Transcript Study of the senior cohort.

DEFINING SCHOOL LEAVING GROUPS & BUILDING SCHOOLING EVENT HISTORIES

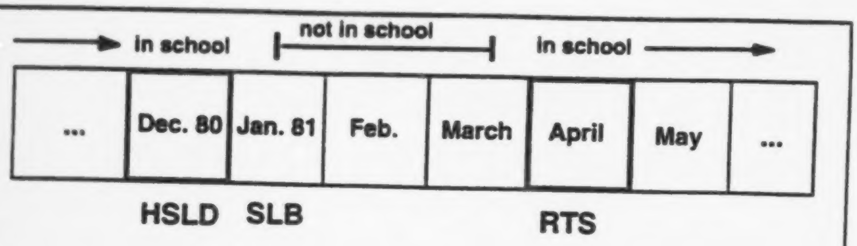
What is a School Leaving Group?

The transition from school into the workforce begins when an individual leaves school for the first time and their primary activity is no longer school. Therefore, the transition starts with a conscious decision to no longer attend school full time and to start a career or job (as a full time activity). Operationalizing this concept requires three definitions: What is school ? What represents the decision to leave school and begin work as a full time activity? What is a school leaving group?

School in this case is college or university of any type. This assumes that the activity of being in a junior college, vocational/technical school, or university is the same. And although they are not the same type of educational experience, the concept of school for this purpose only needs to capture the activity occupying the individual's time, not the quality of the activity. The actual quality of the educational experience is captured in the various levels of school leaving groups that are examined.

School leaving is defined as the time when an individual decides to no longer attend school full time and to enter the workforce; this is the point in which they begin their transition into the workforce. Thus, the decision to work during the summer or the school year or to take time off from school over the summer or as a short break, do not represent a decision to change full time activities from school-to-work. For this reason this analysis defines the school leave begin date as the month in which an individual leaves school for the first time and does not return for up to and including three months (see Figure A.1). This definition excludes jobs held during the summer as part of an individual's transition as well as summer vacation, for as long as June through August, or a one to two month break from school for any other reason.

This definition of school leave begin is verified to mean school as college and not as high school by checking an individual's school leave begin date in light of their high school leave date. If after assigning the school leave begin date, based on the definition above, the school leave begin date occurs prior to their high school leave date plus one then the school leave begin date is reassigned as their high school leave date plus one. The 'plus one' indicates that it is the month immediately following the month spent in high school.



KEY:

HSLD is the month in which the respondent left high school.
SLB is the month of school leave begin and the start of their transition.
RTS is the month in which the respondent returned to school.
The difference between RTS and SLB is the number of months spent in the labor force before returning to school.

Figure A.1: Assignment of School Leave Begin Date

A school-leaving group (SLG) is defined as an individual's educational attainment at the time they begin their transition into the workforce. Therefore, a school leaving group is the education an individual has received up until the point at which they make the decision to leave school and start a career or job. SLGs were assigned according to the educational attainment of the individual at the time they began their transition into the workforce: that is the month in which they left school as their primary activity and did not return to school for up to and including three months. Eight SLGs were defined and are shown in Table A.2.

Table A.2: School Leaving Groups and their Abbreviations

High School Drop out	HSDO
GED Recipient	GED
High School Graduate	HSG
Some Post-Secondary Education	SPSE
License/Certificate Recipient	LIC/CERT
2-3 year Voc Ed or Academic Degree	VOCED/AC
College Graduate	CG
Post-College Education	BA+

The definition of a school leaving group could be sensitive to the choice of requiring three, four, or five months to be spent in the labor force before returning to school . Table A.3 shows the distribution of the number of months between a respondent's school leave begin date and the month in which they returned to school. Those with a value of zero never returned to school: 50.3% of the restricted sample (9078 observations). Moreover, because of the reassignment of a respondent's school leave begin date to equal the month after leaving high school[62], the number of months between a respondent's school leave begin and their returning to school can be less than three. Conditional on returning to school, the most common number of months between school leave begin and returning to school is three: 6.9% of the restricted sample. Of those who had three months between school leave begin and returning to school, the most common month of returning to school was June, July and August, i.e. returning to school for summer school. This also means that most people were out of school during the three months prior, i.e. March through July, respectively. Therefore since the months spent out of school before returning to school are non-summer months, the definition of school-leaving group may not be sensitive to the choice of three months spent in the labor force and out of school.

---

[62] The reassignment was made in the cases where a respondent's initially assigned school leave begin date was prior to their high school leave date.

Table A.3: Distribution of Months From School Leave Begin to School Return

RTS minus SLB *	N	%
No RTS Date	4,569	50.3
1	14	0.2
2	197	2.2
3	**625**	**6.9**
4	392	4.3
5	132	1.5
6	200	2.2
7	210	2.3
8	152	1.7
9	76	0.8
10	61	0.7
11	66	0.7
12	69	0.8
13	63	0.7
14	153	1.7
15	188	2.1
16	65	0.7
17	27	0.3
18	49	0.5
19	73	0.8
20	139	1.5
21	86	0.9
22	33	0.4
23	95	1.0
24	54	0.6
25	22	0.2
26	224	2.5
27	159	1.8
28	24	0.3
29	14	0.2
.	.	.
.	.	.
.	.	.
73	4	0.0
TOTAL:	9,078	100.0

NOTE:

- * SLB is the month of school leave begin and RTS is the month in which the respondent returned to school. Therefore the difference between RTS and SLB is the number of months spent in the labor force before returning to school.

Building Schooling Event Histories and Assigning SLGs

Variables indicating school enrollment during the school year and the summer were used to build the school event histories. School was considered the primary activity of an individual if they were attending school and not working full time (defined as 36 or more hours per week). For example, an individual who is attending school and working full-time is classified as 'working full time'. Gaps in school attendance that were most likely due to school breaks (including the transition from high school attendance to college attendance) were "filled in" with full-time school attendance codes. For example, if a gap began in June, ended in August and was sandwiched by full time school attendance in May and September, then during June through August the respondent is considered attending school full time. Gaps up to and including three months during the summer were filled in and not considered 'school leaving'.

Second, once all gaps from June through August were filled in, the date of school-leaving is determined by finding three consecutive months of non-full time school attendance immediately following a month of full-time school attendance. Gaps of one and two months are not considered school leaving. The date of school leaving is then the first month of the gap. For example, if a respondent, who had no gaps in their schooling of longer than two months prior to May of 1984, was attending school full time in May 1984, but in June, July, and August of 1984 was either 'not in the labor force'[63], unemployed, employed part-or full-time, or attending school while working full time, then the month in which this respondent is considered to have left school for the first time and started their transition into the workforce is June 1984.

Finally, a permanent SLG is assigned to each respondent based on their school attendance and degree receipt as of their school leaving date. For example, if the respondent described in the preceding paragraph was a high school graduate with one year of courses at a community college as of May 1984, the assigned SLG would be 'Some Post Secondary Education' (SPSE), based on the respondent's educational attainment as of May 1984 and not their educational attainment as of the third follow-up survey (July 1986).

Even if a respondent returns to school and/or attains a degree after their school leave begin date, the ascribed SLG is not changed. Thus, the SLG differs from educational attainment for those individuals who return to school after they have already begun their transition into the workforce. Assigning SLGs in this way allows a more comprehensive analysis of the decisions that individuals make in their transition from school into work, primarily by including the decision to return to school. The importance of returning to school and thus the difference between the ascribed SLG and educational attainment for an individual at a point in time is discussed in Chapter 4. Specifically, Chapter 4 analyzes the restricted sample (described in section five) according to two important elements of school leaving groups, rather than educational attainment: 1) the incidence of returning to school and attaining a degree and 2) the timing of the return to school and the duration of time spent out of school.

---

[63] In this case, 'not in the labor force' does not include attending school.

BUILDING EMPLOYMENT EVENT HISTORIES

Event histories for each observation were built with variables concerning monthly unemployment status, monthly and semester school enrollment information, starting and ending dates of employment, average hours worked per week, as well as a variable indicating if the respondent still holds the job and a variable indicating whether the respondent held more than the five jobs during the period covered by the first follow-up or more than four jobs held during the periods covered by the second and third follow-up surveys.

Table A.4 indicates the seven possible states for any given month in the event histories. Unknown hours were assumed to be part-time hours. Thus, the state of attending school and working unknown hours per week was assumed to be attending school and working part-time, just as being employed with an unknown hours per week (and not attending school) was assumed to be part-time employment.

Table A.4: The Seven Possible States of the Event Histories

Full Time Employment, not attending school (35+ hours per week)
Part Time Employment, not attending school (<35 hours per week)
Unemployed
Not in the Labor Force
Attending School, not working
Attending School & working full time [64]
Attending School & working part time

All event histories are right-censored (i.e., there is no information concerning employment or schooling at later ages) as of the 1986 interview, when the young people were aged 21 to 27.

---

[64] In this case of simultaneous activities, the 'primary activity' is considered working full time and not attending school.

There is some sample attrition in the analysis sample. 785 individuals left the sample in February 1984, at the time of the second follow-up. These individuals are right-censored at the age of 19 to 25. Moreover, left-censoring is eliminated because the actual month in which the transition from school into the workforce begins, the school leave begin date (SLB), is determined. Full information is available from the beginning of an individual's transition into the workforce until the date of the third survey wave, July 1986.

The logic used to build the monthly event histories initially fills in the months of unemployment. As a second step, months which indicate school enrollment are filled in. If the respondent is enrolled in school in the spring and fall semester, the summer months are coded as attending school. This means that if unemployment and school enrollment were reported for the same month then the activity for the month is coded as school enrollment and not unemployment. This "over-writing" (i.e., prioritizing of activities during a month) is continued during each step of building the event histories, with the exception that attending school is not overwritten by employment (full-time and part-time). The third step in this process codes months of full-time employment[65], part-time employment, employment with unknown or missing hours worked per week based on reported starting and ending dates of employment. The assignment of employment categories are conditional upon school attendance. The final step in this process codes months for not being in the labor force. Respondents are considered not in the labor force if unemployment and school enrollment are coded as legitimate skips or if no employment information was reported for the given month.

To illustrate how the event histories are constructed consider the following example: Kyle Smith, a senior in high school in 1980, finalized his decision to attend a community college with the help of his parents during his senior year, but decided also to take the month of August off as vacation to visit his Grandmother before starting college in September. To afford the trip and have some spending money, he also decided to work during the last few months of high school and into early summer at the local grocery store. These plans worked out well for him, but by May 1981 when his second semester of college ended, he was still undecided about his major and decided to find a full-time job until he knew better what he really wanted to do. Initially, he found a part-time job in July and by November 1981 he found a full time job. Kyle starts his transition from school into the workforce in May 1981, as someone whose SLG is SPSE. Table A.5 illustrates both the raw information laid out here in the example as well as the event history that would be constructed based on the definitions and logic outlined above.

---

[65] Employment for any given month is determined by the reported starting and ending months for each job; employment during any part of a month is coded in the event history as employment during that month.

Table A.5: Example of Logic and Definitions for Event Histories

		Activity based on raw Information	Activity as constructed for the Event History	School Leave Begin Date & SLG
1980:	May	Attending School & Working Part Time	Attending School & Working Part Time	
	June	Working Part Time	Attending School & Working Part Time	
	July	Working Part Time	Attending School & Working Part Time	
	August	Not in the Labor Force	Attending School	
	September	Attending School	Attending School	
	October	Attending School	Attending School	
	November	Attending School	Attending School	
	December	Attending School	Attending School	
1981:	January	Attending School	Attending School	
	February	Attending School	Attending School	
	March	Attending School	Attending School	
	April	Attending School	Attending School	
	May	Attending School	Attending School	SLB: May 1981 SLG: SPSE
	June	Unemployed	Unemployed	
	July	Working Part Time	Working Part Time	
	August	Working Part Time	Working Part Time	
	September	Working Part Time	Working Part Time	
	October	Working Part Time	Working Part Time	
	November	Working Full Time	Working Full Time	

SAMPLE RESTRICTIONS

The desired analyses require information on immigrant status as well as employment and schooling histories covering the survey period from June 1980 until July 1986. To fulfill these two conditions, six sample restrictions were imposed. Table A.6 outlines the total number of observations lost due to each sample selection restriction.

Table A.6: Total Observations Lost Due to Sample-Selection Restrictions

	TOTAL	NATIVES	IMMIGRANTS
TOTAL INITIAL OBSERVATIONS:	N = 11,500	N = 10,348	N = 990
Sample Restriction #1:			
Immigrant Status Missing	1.40%	--	--
Sample Restriction #2:			
Partial Survey Participation			
Participated in Base Year ONLY	1.80%	1.58%	3.63%
Base Year & First Follow-up	2.43%	2.24%	4.04%
Base Year & Second Follow-up	0.67%	0.65%	0.90%
Base Year & Third Follow-up	0.92%	0.93%	0.70%
Base Year, Second and Third	2.55%	2.46%	3.13%
Base Year, First and Third	3.27%	3.21%	4.24%
Subtotal:	10.99%	10.44%	15.57%
Sample Restriction #3:			
Incomplete employment histories			
In the first follow-up	0.57%	0.61	0.00%
In the second follow-up	0.80%	0.86%	0.20%
In the third follow-up	1.80%	1.95%	0.40%
Subtotal:	3.04%	3.27%	0.60%
Sample Restriction #4:			
Start or End date of Job is missing	6.19%	6.11%	6.86%
Sample Restriction #5:			
Date Left/Graduated High School is missing or prior to January 1980	3.29%	3.02%	5.55%
Sample Restriction #6:			
Never Left School and Began Transition to Work	2.82%	2.59%	4.74%
TOTAL LOST OBSERVATIONS:	**21.06%**	**19.63%**	**23.0%**
RESTRICTED SAMPLE:	**N = 9,078**	**N = 8,316**	**N = 762**

NOTE: 29.06% of all observations lost (33.9% of the natives lost and 49.5% of the immigrants lost) have multiple problems since the sample restrictions are not mutually exclusive. As a result, the columns of percentages do not total.

In total, the six sample restrictions exclude 21.06% of the original sample of 11,500 respondents. 1.40% of the original sample was not included because immigrant status was not identified and 19.66% of the original sample was lost while compiling complete work and school event histories. All percentages are unweighted.

First, HSB asked all base year participants in the original sample (11,500 observations [66]) whether they are foreign-born. 172 did not respond; however, 10 indicated that they had been in the United States for 10 years or less. These 10 observations were coded as immigrants and included in the sample. Overall, 1.40% (162 observations) observations were coded with missing immigrant status. Therefore, these observations can not be included in the analyses, but they are included in the tables and discussions in this section for completeness.

Second, the event histories in these analyses must be continuous, i.e., not containing any gaps. Respondents had to participate in the base year survey and all three follow-up waves or only have missed the third wave of the survey. The majority of the respondents participated in all the survey waves. 772 respondents (679 natives and 93 immigrants) were missing only the third wave covering March 1984 until July 1986 but participated in the base year, first follow-up, and second follow-up survey waves. These 772 respondents with partial event histories[67] were included in the analyses since their event histories were continuous.[68] However, 10.99% of the respondents (1,264 observations: 1,081 natives, 156 immigrants, 27 missing immigrant status) were not interviewed in one or two of the follow-up surveys. These observations are not included in the analyses since their work and schooling event histories contain gaps from the missing interview participation.

The third sample selection restriction is tied to building the employment event histories. In particular, the employment information for the event histories is assembled from the following key variables for each job: starting and ending months and years, hours worked per week, as well as a variable indicating if the respondent still has the job and a variable indicating whether the respondent held more than the five jobs during the period covered by the first follow-up or more than four jobs held during the periods covered by the second and third follow-up surveys. Furthermore, the second sample restriction requires the sample to include only those respondents who reported information on all of the jobs they held during the survey period. The first follow-up of the survey asks employment questions concerning up to five jobs held since the last survey, while the second and third follow-up survey questionnaires ask information on up to four jobs held since the last survey. Primarily, two variables from each questionnaire are used to determine whether a respondent has held more jobs than asked about in the particular time frame of the follow-up: 1) a variable indicating if the respondent still holds the last job reported and 2) in the first follow-up, a variable asking if the respondent held more than five jobs, while in the second and third follow-up, a variable asking whether the respondent held more than four jobs. Thus, if the respondent does not still have the last job reported and has held more jobs than inquired about in each of the follow-up surveys (i.e., six or more in the first follow-up and five or more in the second and third follow-ups), then there is an information gap in the respondent's employment history starting with the ending date of the last job reported and ending with the date of the next follow-up. In sum, 3.04% of the sample (350 observations: 339 natives, 6 immigrants, 5 missing immigrant status) across the three survey waves are not included in the sample as a result of this missing employment information.

---

[66] The 495 non-base year participants were not asked base year survey questions such as whether the respondent is foreign-born.

[67] The partial event histories for these observations cover a three year and eight month time period: June 1980 until February 1984.

[68] 13 additional respondents have partial and continuous event histories but were excluded from the analyses based on other sample restrictions. There are 785 total observations with partial, continuous event histories.

The fourth and fifth sample-selection restrictions are standard missing data restrictions. The fourth restriction excludes observations if information is missing from any of the key seven variables necessary to build the employment histories. However, there is one exception. If hours worked per week is unknown, a flag is indicated in the employment history and the observation is still included in the sample. This exception is made because in these cases the main activity of the respondent for the month is known: employment. Overall, 6.19% (712 observations: 633 natives, 68 immigrants, 11 missing immigrant status) are not included in the analyses due to missing data in the keys variables used in constructing the employment event histories.

The fifth sample restriction eliminates observations with missing data or a date prior to January 1980, the beginning of the survey period, for their high school graduation/leaving date. The start date of the respondent's transition from school-to-work is the date on which the respondent left or graduated from high school. Thus, this date must be reported and not prior to the start of the survey to analyze a respondent's complete transition from school into the workforce. 3.29% (379 observations: 313 natives, 55 immigrants, 11 missing immigrant status) had high school graduation/leaving dates missing or prior to January 1980.

The sixth sample restriction eliminates 2.82% of the respondents (325 observations: 269 natives, 47 immigrants, and 9 missing immigrant status) who graduated from high school and attended some type of post-secondary education, but never left school full time to enter the workforce (for the three consecutive months), according to how the 'transition from school-to-work' is defined for these analyses. These respondents never began their transition from school into the workforce and therefore are not appropriate for these analyses.

In addition to the overall percentages lost, the percentages lost for immigrants and natives are also of interest. Of the 10,348 natives in the Senior Cohort of High School & Beyond (HSB), 19.63% (2,032 natives) were not included in the analyses: 10.44% from partial survey participation, 3.27% from incomplete employment histories, 6.11% from missing start and end date of jobs, 3.02% from the date when respondent left or graduated from high school missing or being prior to January 1980, and 2.59% from never leaving school to transition into the workforce. And of the 990 immigrants in the Senior Cohort of HSB, 23.0% (228 immigrants) were not included in the analyses: 15.75% from partial survey participation, 0.6% from incomplete employment histories, 6.86% from missing start and end date of jobs, 5.55% from the date when respondent left or graduated from high school missing or being prior to January 1980, and 4.74% from never leaving school to transition into the workforce. Therefore, natives were more likely dropped because of incomplete employment histories as a result of having more jobs than able to report (3.27% of natives lost and 0.60% of immigrants lost), while immigrants were more likely dropped because of attrition (10.44% of natives lost and 15.75% of immigrants lost) or the date of high school leaving or graduation missing or being prior to January 1980 (3.02% of natives lost and 5.55% of immigrants lost). However, these small differences across the type of sample restriction should not bias the final analysis sample.

THE ANALYSIS SAMPLE

The analysis of immigrants and natives as they transition from high school into the workforce requires information on nativity, employment and schooling histories covering the six year survey period from June 1980 until July 1986, as well as large enough sample sizes to interpret and generalize the findings to the national population of high school seniors. The sample sizes for each School-leaving Group after imposing the sample restrictions are shown in Table A.7 by immigrant status.

Table A.7: Size of School-Leaving Groups for HSB Immigrants and Natives

SLG:		TOTAL	NATIVES	IMMIGRANTS
High School Drop Out :	HSDO	95	85	10
Graduate Equivalent Degree:	GED	31	29	2
High School Graduate:	HSG	7,046	6,460	586
Some Post Secondary Education:	SPSE	1,339	1,219	120
License or Certificate:	LIC/CERT	67	66	1
Vocational or Academic Degree:	VOCED/AC	165	153	12
College Graduate:	CG	324	295	29
Post-Bachelor of Arts Education:	BA+	11	9	2
TOTAL:		9,078	8,316	762

The sample sizes for several School Leaving Groups are not large enough to generalize and/or make policy recommendations for immigrant and native high school seniors. Thus, the analysis focuses only on high school graduates (HSG)and those with some post secondary education (SPSE). These two groups, which constitute the analysis sample, consist of 8,385 observations: 706 immigrants and 7,679 natives. Table A.8 summarizes the unweighted, weighted, and reweighted percentages of the original 11,500 observations by school leaving group.

Table A.8: Unweighted, Weighted, & Reweighted Percentages of the Original Sample by School Leaving Group

SCHOOL LEAVING GROUP:	N	UNWEIGHTED %	WEIGHTED %	REWEIGHTED %
HSDO	95	0.08%	0.8%	--
GED	31	0.03%	0.3%	--
HSG	7,046	61.3%	69.5%	84.0
SPSE	1,336	11.6%	12.7%	16.0
LIC/CERT	67	0.6%	0.7%	--
VOCED/AC	165	1.4%	1.7%	--
CG	324	2.8%	3.6%	--
BA +	11	0.1%	0.1%	--
EXCLUDED	2,422	21.1%	10.7%	--
TOTAL:	11,500	100.00	100.00	100.00

Comparing the Analysis Sample with the Dropped Observations

The sample selection restrictions and the sample size restriction based on SLG sample sizes altered the composition of the original sample and potentially induced biases. By comparing the distribution of standard individual level characteristics across the analysis sample and the dropped observations, the impact of the sample restrictions on the composition of the analysis sample and potential biases, if any, can be detected. Table 5.8, which reports the percentages of selected characteristics for the analysis sample, the total observations lost, and each of the six sample restrictions, highlights only the aberrant characteristics, since these are the characteristics of potential bias and interest.

In entirety, as seen in comparing the first two columns of Table A.9 the sample restrictions disproportionately dropped immigrants, males, blacks, those who attained a BA .as of 1986, attended urban schools, or were in the lowest test composite quartile. For these characteristics, Table A.8 also dissects the total percent lost according to each sample restriction to examine why the observations were dropped. The six sample restrictions again are: 1) missing immigrant status, 2) partial participation across survey waves, 3) incomplete employment histories, 4) missing starting or ending date of jobs 5) high school graduation or leave date is missing or is prior to January 1980, and 6) never left school and began transition to work. Note that the percentages for the other categories of race, educational attainment, urbanity, and test composite scores as well as annual family income, school type, geographical region of school, years spent in the United States, and country of origin were compared across the analysis sample and the total lost, but sizable differences were not found.

Table A.9: Aberrant Characteristics of the Analysis Sample and the Lost Observations Illustrated by the Total Percentages and the Six Sample Restrictions

Aberrant Characteristics	Analysis Sample	Total Lost	1	2	3	4	5	6
Total Observations	8,385	3,115	162	1,264	350	712	379	325
	%	%	%	%	%	%	%	%
Immigrant status	8.4	9.1	--	**12.3**	1.7	9.5	**14.5**	**14.4**
Male	45.7	50.8	**66.6**	**58.8**	40.8	**50.9**	**62.0**	**60.9**
Black	26.4	29.6	**53.7**	**34.0**	16.0	**33.4**	**34.5**	**32.9**
Attained BA as of 1986	14.6	18.8	2.4	4.6	**32.8**	8.5	2.1	1.8
Urban School Attendance	27.4	29.5	**37.0**	**32.5**	23.7	28.6	**32.9**	**31.3**
Lowest Test Quartile	28.6	32.2	**50.0**	**36.7**	15.7	**41.7**	**42.7**	**39.6**

Note: Sample Restriction 1 is missing immigrant status
Sample Restriction 2 is partial participation across survey waves
Sample Restriction 3 is incomplete employment histories
Sample Restriction 4 is missing starting or ending date of jobs
Sample Restriction 5 is high school graduation or leave date is missing or prior to January 1980
Sample Restriction 6 is never left school and began transition to work

Immigrants were disproportionately dropped; immigrants represent 9.1% of those dropped and 8.4% of the analysis sample. This difference is attributable to a higher percentage (as compared to the 8.4% of immigrants within the analysis sample) of immigrants dropped because of partial survey participation (12.3%), having a high school graduation or leave date that is missing or prior to January 1980 (14.5%), and having never left school to begin a transition from school-to-work during the six years of post high school experiences analyzed (14.4%). These restrictions seem to indicate that immigrants are both disproportionately high school drop outs (indicted primarily through unknown high school leave dates) as well as those who continue on straight through school (and never begin their transition into the workforce, i.e. sample restriction six). There is evidence of both of these trends in other literature (Vernez and Abrahamse, 1996; Schoeni, McCarthy, Vernez, 1996). More importantly, the overall magnitude of the difference between 8.4% and 9.1% immigrants is small and not likely to lead to a bias for immigrants in the analysis sample. Furthermore, the percent of immigrants within the original sample was 8.4, which equals the percentage in the analysis sample.

Males were disproportionately dropped compared to females: males are 45.7% of the analysis sample and 50.8% of the observations dropped. Males tended to be dropped at a higher percentage than females across all the restrictions except incomplete employment histories. Males were 66.6% of those missing immigrant status, 58.8% of survey attriters, 50.9% of those missing start or end date of jobs, 62.0% of those with their high school graduation or leave date missing or prior to January 1980, and 60.9% of those who never left school and began a transition into the workforce. Despite these higher rates, the final unweighted distribution of males and females in the analysis sample, 45.7% male and 54.2% female, is not biased, since the magnitudes are very similar to the 1980 nationally representative percent of males and females: 47.3% and 52.7%, respectively.

Blacks were dropped from the sample more often than whites, Hispanics, and Asians; Blacks consist of 26.4% of the analysis sample and 29.6% of those observations dropped. Whites have a slightly lower percentage in the analysis sample (48.8% compared to 42.9% of those dropped), whereas the percentage of Asians and Hispanics remains unchanged (Asians represent 3.5% of the analysis sample and 3.6% of those lost, while Hispanics are 19.0% of the analysis sample and 20.4% of those dropped). Blacks, as males were dropped at a higher percentage than other racial groups across all the restrictions except incomplete employment histories. Blacks were 53.7% of those with missing immigrant status, 34% of those dropped for sample attrition, 33.4% missing start or end dates, 34.5% of those missing a high school leave date, and 32.9% of those who never started their transition into the workforce. However, the final distribution of race in the analysis sample, 26.4% percentage of black, 48.8% white, 3.5% Asian and 19.0% Hispanic, are not significantly different than the nationally representative 1980 percentages: 26.6% black, 48.0% white, 3.5% Asian, 18.9% Hispanic.

Those individuals who attained a BA as of 1986 were more likely dropped from the analysis sample; they represented 14.6% of the analysis sample and 18.8% of those dropped. Their higher tendency to be dropped is explained by incomplete employment histories, which is a result of having more jobs than able to report. By survey design, a respondent was only able to report having five jobs since the last survey period, which as a two year time frame. 32.8% of those with more jobs held than able to report had attained a BA as of 1986. This is substantially higher than their representation in the analysis sample of 14.6%, in the original sample of 17.3%, and in the nation of 18.2%. This indicates that those who attained a BA as of 1986 also had a tendency to have a large number of jobs, i.e. more than five jobs during a the two year period. This could potentially bias (downward) the analysis sample in terms of the number of jobs held. However, since the total number of observations lost because of this restriction is small (350 out of 3,115: 11.2%), the concern is not large.

Individuals who attended urban schools were also disproportionately dropped. The analysis sample consisted of 27.4% from urban schools, while 29.5% of those dropped were from urban schools. 37.0% of those missing immigrant status were from urban schools, 32.5% of survey attriters, 32.9% of those with missing high school graduation or leave dates being from urban schools, and 31.3% of those who never left school and began a transition into the workforce. The disproportionate elimination of those who attended urban schools however did not alter the representation of those from suburban schools, which remained constant across the analysis sample (44.9%) and those dropped(44.9%), but did impact the final percentage from rural schools, which is slightly higher for the analysis sample (27.6%) than for those dropped (25.4%). Comparing the distribution of those from urban, suburban, and rural schools across the analysis sample and those represented in the nation in 1980 indicated that the overall magnitude of the changes is not of concern. The analysis sample is 27.4% urban, 44.9% suburban, and 27.6% rural, while in the nation 27.9% of high school seniors attended urban schools, 45.5% attended suburban schools, and 26.8% attended rural schools.

Finally, those students from the lowest academic achievement quartile were disproportionately dropped. They represented 28.6% of the analysis sample and 32.2% of those dropped. Their higher representation among those dropped is explained by those with the lowest academic achievement being 50% of those missing immigrant status, 36.7% of survey attriters, 41.7% of those missing start or end dates of jobs, 42.7% of those with high school graduation or leave dates missing or prior to January 1980 as well as 39.6% of those who never left school to begin their transition into the workforce. However in the final comparison, those with the lowest academic achievement represent 28.6% of the analysis sample, which does not significantly differ from the 28.4% percent of those with the lowest academic achievement in the original sample.

In sum, the sample restrictions change the composition of the sample but are not likely to cause bias or be a serious concern for this analysis. The disproportionately dropped observations appear to be of such small magnitude that they do not cause the overall analysis sample percentages to waiver from the nationally representative percentages for youth in 1980.

APPENDIX B: SEAM BIAS

A reporting problem often found in collecting longitudinal data is seam bias, i.e., 'the heaping of most of the observed transitions at the seam between two waves of interviews' (Martini, 1989). Seam bias occurs when respondents recall dates of an event in connection with retrospective questions. The long recall period potentially induces biases in the reported behavior(Martini, 1989). The data collected potentially has a bias of events occurring around the start and end -- the seams -- of the survey waves because retrospective questions ask for information concerning events that could occur at or overlap the survey periods. The nature of the employment questions in HSB, which are used to build the employment histories for this analysis, could potentially induce seam bias.

The phrasing and design of the HSB employment questions influenced the extent and occurrence of seam bias. High School and Beyond collected information in 1980, the base year, and then every two years thereafter: 1982, 1984, and 1986. As a result, High School and Beyond could potentially be biased at seam one, February 1982, and seam two, February 1984.

The first follow-up asks employment questions concerning up to five jobs held since after high school, while the second and third follow-ups ask employment questions on up to four jobs held since the last survey date. This design leaves more potential for reporting error and bias compared to asking monthly employment or job status.

The particular employment questions in High School and Beyond (Senior Cohort) plagued by seam bias are the questions asking the starting and ending month and year for the total number of jobs asked to report: five in the first survey, four jobs in the second survey, and four jobs in the third survey.

The first follow-up reads:

> Next we would like information about all of the jobs you have had since you left high school. We would also like to know about any periods you were looking for work between jobs.
>
> When did you start work at your first job after high school?

> When did you leave your first job after high school?
>
> Do you still have your first job after high school? ... (etc.)

(High School and Beyond 1980 Senior Cohort Third Follow-up (1986) Volume 1. Data File User's Manual. Contractor Report. Center for Education Statistics. United States Department of Education. pp. 8-87 through 8-93)

Two responses are given to each of the date questions: the month (January through December) and the year (1976 or before, 1977, 1978, 1979, 1980, 1981, or 1982). To the question of 'still have job', the response is a yes or no . Additional questions are asked about each job held, but are not shown here. The sequence of questions is repeated for the second through fifth job held after high school.

In the second survey the wording varies; it reads:

> In this section, we would like to find out about the jobs you have held, particularly between March 1982 and February 1984. Include full-time jobs, part-time jobs, apprenticeships, on-the-job training, military service and soon.
>
> Between March 1982 and the end of February 1984, did you hold a full-time or part-time job of any kind?
>
> Next we would like information about all of the jobs you had between March 1982 and the end of February 1984. We would like to know about the periods of time your were between jobs and looking for work.
>
> IMPORTANT INSTRUCTIONS
> There is room to discuss four jobs. At Q.47 enter the job you held on March 1 1982. If you had no job at that time, enter the first job you held after March 1, 1982. Answer parts A-L about that job. Enter your next job at Q.48 and so on.
> IF YOU HAVE MORE THAN FOUR JOBS: Enter the first three jobs in Q.47 to 49 and then enter your most recent or current job in Q.50.
> IF YOU HELD TWO JOBS AT THE SAME TIME: Enter both jobs but enter them on separate pages.
>
> When did your start job number one?
>
> When did you leave job number one?
>
> Do you still have job number one ?

(High School and Beyond 1980 Senior Cohort Third Follow-up (1986) Volume 1. Data File User's Manual. Contractor Report. Center for Education Statistics. United States Department of Education. pp. 8-245 through 8-258)

The first question is a flag for employment during the period since the last survey, while the next series of questions concern the characteristics of the jobs held during the two year time frame. The request for the start and end dates of jobs have two responses: the month (January through December) and the year (1982, 1983, 1984). The response is yes or no to the question of 'still have job'. Additional questions are asked about each job held, but are not shown here. This sequence of questions is repeated for the second through fourth job.

The allowable responses for year for the starting and ending dates is 1982, 1983, or 1984. As a result, respondents who started a job prior to January 1982, the earliest allowed response, either respond with the earliest possible start date, January 1982, or do not respond (and are coded as missing).[69] This is one example of how the design of the HSB employment questions in the third follow-up survey can introduce seam bias into the data reported for seam two: March 1984.

The design of the HSB survey and the nature of the information being requested lend themselves to seam bias. And in fact seam bias was discovered in both seams of the HSB employment dates. When a correction for seam bias (or still having a job at a seam) the observation was flagged; the frequencies from these flags are reported here. Overall, seam bias was detected along seam one in 24.8% of the observations, along seam two in 11.5% of the observations, and along both seams in 4.9% of the observations.

Fortunately, however, there are logical ways of eliminating the seam bias found along both seams in event histories. Three methods of correction were employed for this analysis; but to understand the methods of correction, the arrangement of the data and how it was coded needs to be elaborated.

In the HSB Senior Cohort 1980-1986 data, there are a total of 13 jobs able to be reported: five in the first follow-up, four in the second follow-up, and four in the third follow-up. Therefore, each observation was coded with 13 variables for each job characteristic, i.e. the start (and end) dates of the jobs held were coded one through thirteen: start1, start2, start3, ... start13.

If, for example, a person reported four jobs held in the first follow-up, three in the second follow-up, and three in the third follow-up, then 10 out of 13 of the start (and end) variables would contain information and the others would be coded as zero i.e., start5, end5, start9, end9, and start13, end13 would be zero. Thus, with this scheme of data collection and variable coding, the sixth and tenth job characteristics variables, i.e. start6 and start10, are the variables that fall on the seams of the survey and hold the most potential to be incorrectly reported as the date of when the survey information was collected.

---

[69] If this is the case then the observations are not included in the analysis sample. One of the sample restrictions was requiring that starting and ending dates were non-missing.

In addition, information was collected on each respondent about their employment and schooling history from January 1980 and July 1986. As a result, each respondent's employment history contained 79 months, starting in January of 1980 and ending July 1986. Each month between January of 1980 and July 1986 was coded with a number from 1 to 79. For example, 1 represents January 1980, 26 represents February 1982, 50 as March 1984 and 79 as July 1986. This system of numbering months in which information was asked from the beginning until the end of the survey assists in seam bias identification. The first seam is month 26, and the second seam is month 50. Therefore, any systematic reporting of a start or end date equal to 26 or 50 indicates potential seam bias.

The employment history information of a respondent is only analyzed over the course of their transition from school into the workforce. The first month analyzed is the first month in which the individual begins their transition into the workforce, as defined earlier as the corresponding month of their school leave begin date (SLB), i.e. the month in which an individual leaves school for at least three non-summer months. The last month analyzed in the transition is July 1986, coded as 79, since it is the last month the survey solicited information. Information collected concerning the respondent's labor force status from January 1980, coded as 1, until their SLB is not of interest in this analysis, since it is not a part of an individual's transition from school-to-work.

To illustrate the coding rules for the labor force status variables, consider the following employment and schooling history:

> Amanda Jones started a part-time job as a senior in high school (November 1979), graduated from high school in May 1980, and decided to immediately go onto college. During her first semester in college she quit her part-time job (November 1980) because of her heavy course load; but by the end of her third semester in college, she decided that she needed a break and would work for a year. Before she left college, she was able to find a full-time job in the town she went to college (November 1981). She left college in December 1981. But because she enjoyed the job she had found and was not that happy with being in school full-time, she worked at her job longer than she expected and did not leave it until May 1983. At this point, she decided to return to college during

> the summer semester with the expectation of finishing her degree. To maintain her lifestyle at the time, she found a part-time job in July 1983. This job was very dissatisfying to her so by the middle of the fall semester, she found another part-time job (November 83). She held this job until she finished her 3 year vocational degree in May 1986. As the result of a teacher's recommendation, Amanda found a full-time job in her career in June 1986.

Remember that Amanda was asked to report information on her first five jobs after high school in February 1982 , up to at least four jobs held between February 1980 and March 1984 in March of 1984, and up to at least four jobs held between March 1984 and July 1986 in July 1986. Table B.1 indicates the variables used in the illustrative event history, their codes, and the information reported. Notice that variables with codes equal to 26 or 50 have potential for seam bias.

Table B.1: Example of Logic and Variable Coding for Individual Jobs in the Event Histories

Variables	Codes	Actual Information Reported
HSLD (High School Leave Date)	5	May 1980
SLB (School Leave Begin)	25	January 1982 *
Information Collected Feb. 1982:		
START1	1	November 1979
END1	11	November 1980
START2	23	November 1981
END2	26 *	still have job
START3	0	
END3	0	
START4	0	
END4	0	
START5	0	
END5	0	
Information Collected March 1984:		
START6	23	November 1981
END6	41	May 1983
START7	43	July 1983
END7	47	November 1983
START8	47	November 1983
END8	50	February 1984
START9	0	
END9	0	
Information Collected July 1986:		
START10	47	November 1983
END10	77	May 1986
START11	78	June 1986
END11	79 *	still have job
START12	0	
END12	0	
START13	0	
END13	0	

NOTE: * This date was deciphered from other information reported and was not self-reported.

Notice Amanda held five jobs total from January 1980 until July 1986, but reported starting and ending dates for seven jobs. This occurred because in February 1982 Amanda reported that she still had her second job;

thus, end2 was coded as 26, the date of the first follow-up survey. And in March 1984 she reported having held a job from November 1981 until May 1983; a time frame which overlaps the survey date of the second follow-up -- seam one. In the second wave, she also reported still having the job that she started in November 1983. Then in July 1986, she reported having held a job from November 1983 until May 1986. She also reported that she still had the job she started in June 1986, which was coded as 79, the date of the third follow-up survey. However, since no information is available past July 1986, there is no way to know when it ended. This job is censored.

Moreover for the analysis, Amanda is classified as having some post secondary education when leaving school and entering the labor force, i.e. the SPSE school leaving group. Her school leave begin (SLB) date is January 1982, which is the start of her transition from school into the workforce. But most importantly, the analysis only includes her employment and schooling decisions as defined by her school-to-work transition, which started in January 1982 until July 1986. During this time, she held only four jobs.

With the understanding of how the data was collected and coded for analysis, the correction for jobs still held can be explained and the methods of seam bias correction can now be elaborated.

First, jobs that spanned a seam and were reported by the respondent in two survey waves were identified. These jobs are not inflicted with seam bias. This means that the respondent the first time asked reported the correct start date and an end date as a seam because they still held the job. Then in the next survey wave reported the start date to be the seam but also gave the correct end date. In 73 cases, two pieces of job history information were treated as information on just one job held, as explained here.

Next, corrections for jobs with identical starts were made. This correction required a few steps. In the first stage all jobs reported to end at seam either February 1982 or March 1984 are identified, i.e. all jobs with end1 through end13 either equal to 26 or 50. These jobs potentially are coded as ending in February 1982 or in March 1984 when the job history information was collected, but did not actually end on that date. However, jobs, which the respondent could have still held at the point in time the information was collected, because they did not end until a later date in the future, were not included. Therefore, the next step was to flag the reported start date of the job that ended at the seam. Then check for an identical start date reported in a survey wave following when the potentially biased job was reported. If in a subsequent wave a job was reported to start at the same date as well as end at a time later than the seam, it was assumed that only one job was held and that information pertaining to it was reported twice: once during the first follow-up when the correct start date was reported but an incorrect end date was coded because the person was still in the job as well as again during the subsequent (second or third) follow-up at a point when the job actually had ended and the respondent could report the correct start and end date. In this case the information collected during the first survey with an end date equal to 26 was dropped (made equal to zero) and the job was recorded in the respondent's labor history with the start and end date reported from the later survey wave. 1,739 observations were identified and fixed because of reporting that they still held a job, while 557 observations required a correction because of seam bias.

Then seam bias was corrected for jobs that end at a seam, but do not have an identical start date reported in a subsequent survey. To correct for this, a job with the 'closest' start date must be identified and used to provide information to correct the seam bias. This correction is similar to the identical start correction, except that it is assumed that the respondent may not have remembered the exact start date of the job, particularly since the date is retrospective over two years. Thus, the identification is more involved. First, as in the other correction method, all jobs reported to end at seam either February 1982 or March 1984 are identified. Again, the next step is to flag the reported start date of the job that ended at the seam. Then because there is not a job reported in a subsequent wave with the identical start date, a job in a subsequent wave with the closest start date to the start date of the job that ended at a seam is flagged. Once this job is identified, the end date replaces the end date at the seam. For example, if the start date of the job with the seam end date is November 1981, but the subsequent survey reports a job with a start date of December and a non-seam ending date of May 1983, then one job is recorded in the event history with a start date of November 1981 and an end date of May 1983. This assumes that the respondent erred on a subsequent survey of reporting the exact start date. This is not an unreasonable assumption considering the retrospective nature of the data. 1,850 observations were corrected at seam one of which 1,321 only had one option as the 'closest' job and 935 observations were corrected at seam two, of which 484 only had one option as the 'closest' job.

After all the corrections, a count of how many jobs started and ended on a particular month from SLB to 79 were analyzed to identify any additional systematic occurrences of jobs starting and ending in a particular month. Table B.2 shows these counts. A total of 24,025 jobs are identified and analyzed.

Table B.2: The Number of Jobs Started and Ended in Any Given Month during the STW Transition

Month during STW Transition		Number of Jobs started in Month	Number of Jobs ended in Month
1980:	January	--	--
	February	--	--
	March	1	--
	April	3	--
	May	7	--
	June	486	7
	July	464	44
	August	469	226
	September	599	139
	October	438	92
	November	268	122
	December	237	155
1981:	January	372	182
	February	261	115
	March	349	149
	April	292	144
	May	599	225
	June	929	209
	July	421	212
	August	476	793
	September	573	412
	October	385	206
	November	288	185
	December	220	287
1982:	January	380	213
	February	**234**	**272**
	March	249	194
	April	138	176
	May	359	257
	June	492	197
	July	190	148
	August	274	590
	September	321	319
	October	206	143
	November	232	160
	December	166	211
1983:	January	312	164
	February	204	140
	March	271	187
	April	222	144
	May	436	259
	June	613	265
	July	279	187
1983:	August	378	656
	September	416	389
	October	312	227
	November	269	204
	December	189	342
1984:	January	305	233
	February	**450**	**618**
	March	525	289
	April	186	244
	May	353	467
	June	451	348
	July	224	246
	August	364	532
	September	351	267
	October	284	196
	November	229	190
	December	222	397
1985:	January	405	201
	February	241	184
	March	295	254
	April	277	238
	May	332	324
	June	418	320
	July	275	271
	August	387	478
	September	459	282
	October	297	215
	November	195	198
	December	184	390
1986:	January	323	253
	February	239	395
	March	161	839
	April	90	614
	May	103	663
	June	71	404
	July	50	452
	(Censored)		(3,527)
	TOTAL:	24,025	24,025

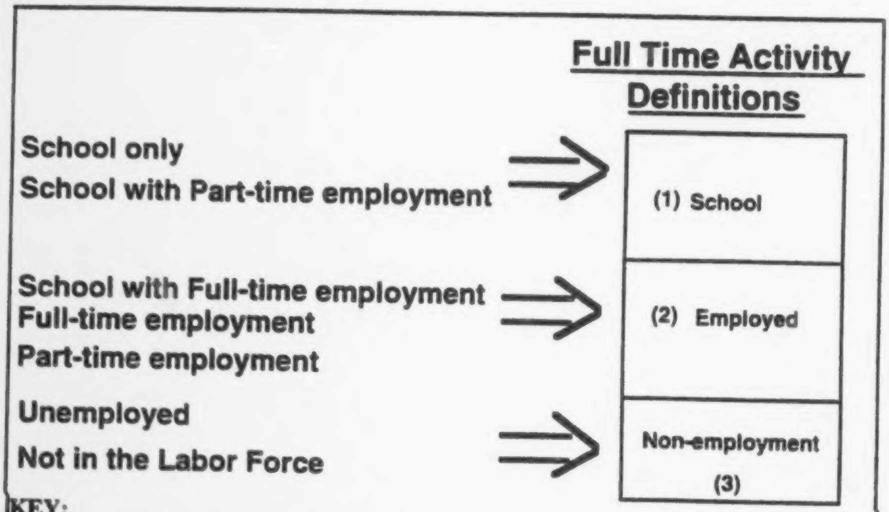
NOTE: The seam month for seam one is February 1982 and for seam two is February 1984.

APPENDIX C: MUTUALLY EXCLUSIVE SETS OF OUTCOME MEASURES

This analysis uses a detailed framework of the school-to-work transition which emphasizes three different aspects of adolescent's transition decisions based on time allocation: conventional full-time activity, combined vs. single activity, and full- or part-time work. Each of the groupings combines the following seven activities into a mutually exclusive set of outcome measures:

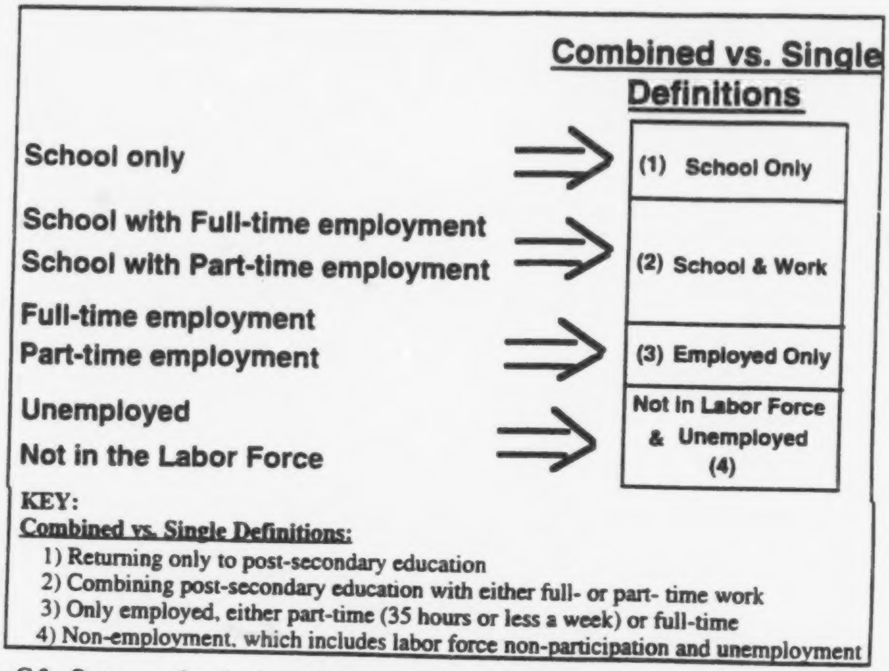
1) only attending post-secondary education,
2) only working part-time,
3) only working full-time,
4) combining post-secondary education with either full-time or part-time work,
5) returning to post-secondary education combined with part-time work,
6) unemployment, and
7) labor force non-participation

Figures E.1 - E.3 depict how these seven activities are grouped according to Full-time Activity Grouping, Combined vs. Singe Activity Grouping, and the Full vs. Part-time Work Grouping, respectively.


Full Time Activity Definitions
School only
School with Part-time employment
(1) School
School with Full-time employment
Full-time employment
Part-time employment
(2) Employed
Unemployed
Not in the Labor Force
Non-employment (3)

KEY:
Full Time Activity Definitions:
1) School, which includes attending post-secondary education as a single activity and post-secondary education combined with part-time work
2) Employed, which includes working only, either at a full-time (35+ hours a week) or part-time job, and working full-time while attending post-secondary education
3) Non-employment, which includes labor force non-participation and unemployment

Figure C.1: Outcomes for the Full-time Activity Grouping of School-to-Work Decisions For Any Given Month

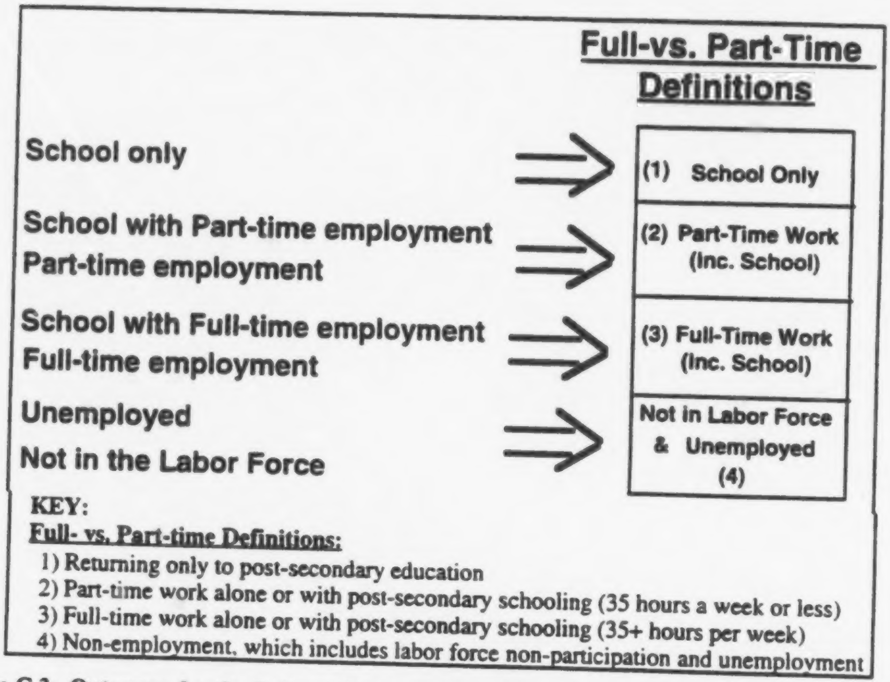

Combined vs. Single Definitions
School only
School with Full-time employment
School with Part-time employment
Full-time employment
Part-time employment
Unemployed
Not in the Labor Force
(1) School Only
(2) School & Work
(3) Employed Only
Not in Labor Force & Unemployed (4)

KEY:

Combined vs. Single Definitions:

1) Returning only to post-secondary education
2) Combining post-secondary education with either full- or part- time work
3) Only employed, either part-time (35 hours or less a week) or full-time
4) Non-employment, which includes labor force non-participation and unemployment

Figure C.2: Outcomes for the Combined vs. Single Activity Grouping of School-to-Work Decisions For Any Given Month


Full-vs. Part-Time Definitions
School only
School with Part-time employment
Part-time employment
School with Full-time employment
Full-time employment
Unemployed
Not in the Labor Force
(1) School Only
(2) Part-Time Work (Inc. School)
(3) Full-Time Work (Inc. School)
Not in Labor Force & Unemployed (4)

KEY:

Full- vs. Part-time Definitions:

1) Returning only to post-secondary education
2) Part-time work alone or with post-secondary schooling (35 hours a week or less)
3) Full-time work alone or with post-secondary schooling (35+ hours per week)
4) Non-employment, which includes labor force non-participation and unemployment

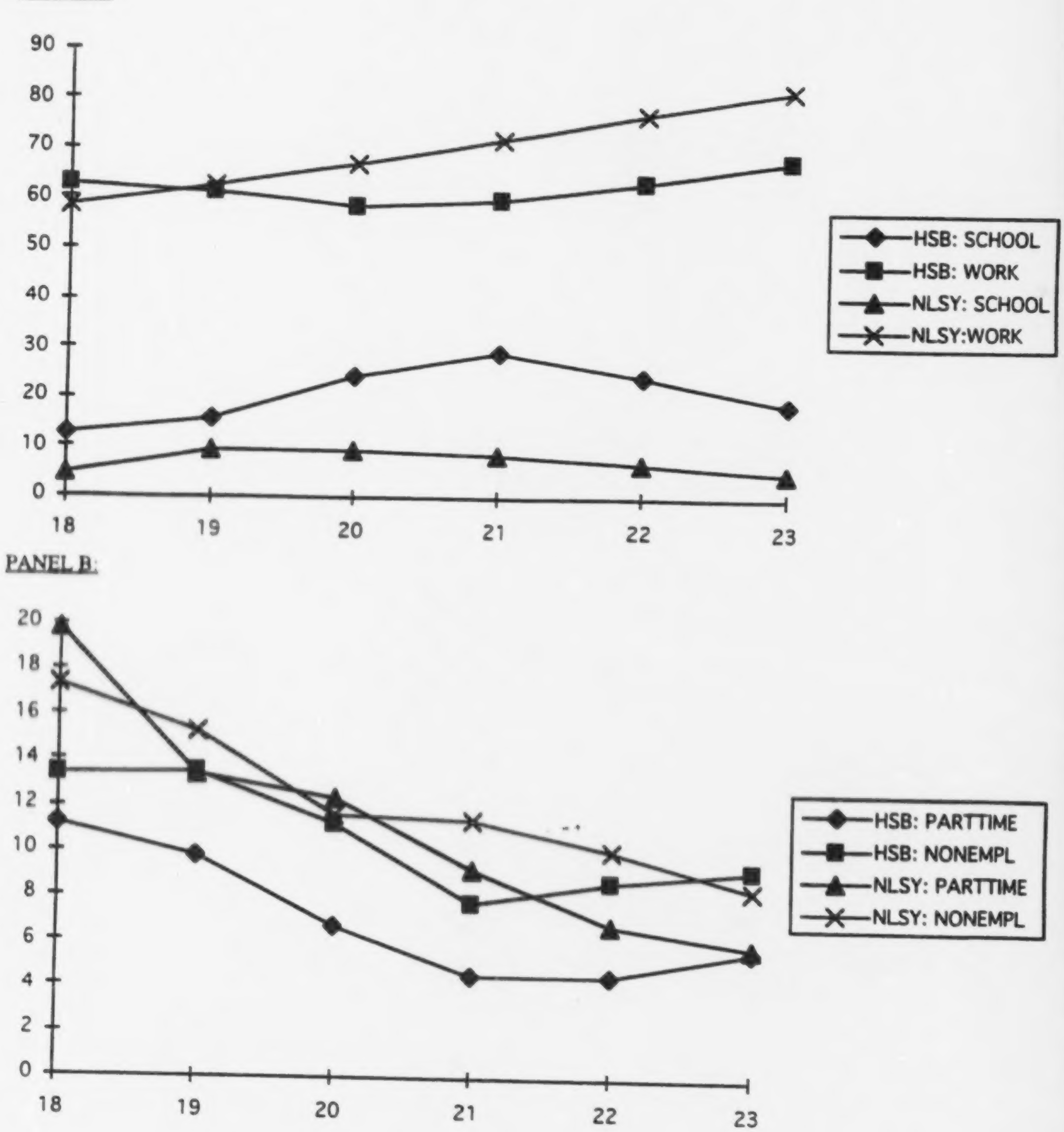
Figure C.3: Outcomes for the Full- vs. Part-time Work Grouping of School-to-Work Decisions For Any Given Month

APPENDIX D: STATIC LABOR FORCE STATUS FOR WHITE MALE HIGH SCHOOL GRADUATES FROM HSB AND NLSY

Klerman and Karoly (1995) analyzed the static labor force trends of while male high school graduates using the National Longitudinal Survey of Youth (NLSY) using similar definitions. Figure D.1 compares the static labor force status for white males who initially left school as high school graduates by age from both the NLSY and HSB.

Notice that selecting only white male high school graduates from the HSB sample reveals a higher percentage of working as well as a lower percentage of non-employment compared to males and females of all races who initially leave school as high school graduates or with some post-secondary education. This is expected since females and other racial groups tend to have higher rates of non-employment. (Refer to Figure 4.2 and Figure D.1, Panel A and B)

The NLSY is a cohort of 14 year olds would have been high school graduates and graduated from high school with the classes of 1978 through 1983. The HSB cohort of high school graduates graduated from high school in 1980 through 1981. There is roughly a three year time difference across the cohorts in terms of when they graduated from high school. Comparing the static labor force status of white male high school graduates across the HSB and NLSY indicates a slightly lower percentage of white males working or being employed part-time, as well as, a higher percentage of schooling in the HSB sample. These differences could be explained by several potential factors. HSB is a school-based sample collected when the respondents are high school seniors whereas NLSY is a house-hold sample of respondents started at the age of 14. HSB also concentrates on questions dealing with education and post-secondary experiences whereas NLSY asks questions pertaining primarily toward labor force participation. Thus, HSB potentially contains a higher percentage of youth who remained in high school and will continue onto some post-secondary education.


PANEL A:

PANEL B:

Figure D.1: Static Labor Force Status for Youth who Left School as High School Graduates or With Some Post-Secondary Education by Age from HSB and NLSY

APPENDIX E: EXPLANATIONS OF IMMIGRANT SCHOOL-TO-WORK PATHS

Do Individual or Family Characteristics explain the Different School-to-Work Paths of Immigrants ?

During their school-to-work transition, foreign-born youth spend more time than natives attending post-secondary education and combining part-time work with post-secondary education. Native youth spend more time than immigrants working either full-time or as their sole activity (not simultaneously attending post-secondary education). Various reasons could explain these different activities, such as the youth's race, level of family income, parent's educational attainment, number of siblings, whether the mother worked in high school, youth's academic achievement, English skills, aspirations for college, attitude toward working hard, number of children, perception of the importance of steady work, or financial aid for college. In this analysis all of these family or individual characteristics, beliefs, and attitudes were investigated. Only those with slight or significant impact are reported below, although any of these characteristics individually explain very little of the immigrant differences.

Comparing a basic regression model of only immigrant status with an enhanced model containing immigrant status and race, for example, could illustrate a change in the magnitude and significance of the estimated coefficients on immigrant status across all the outcomes, indicating the influence of race on the particular school-to-work activity. However, for most of the individual or family characteristics, included as a single additional regressor to the regression with the immigrant dummy variable, no significant changes in the significance or magnitude of the coefficients were found (Table E.1).

The single largest determinant of the immigrant school-to-work differences are youth's aspirations to be a college graduate. Controlling for these college aspirations among youth, who initially leave school and enter the work force without a college degree reduces the differences found between immigrant and native school-to-work patterns across several outcomes. Disappointment in not being a college graduate reduces the 5.5 additional months immigrants spend attending post-secondary education as a full time activity to 3.7 months, the 2.2 additional months spent in school as their sole activity to 1.3 months, as well as, the 4.2 additional months combining work with school to 2.6 months. Youth's college aspirations also decrease the 6.5 fewer number of months immigrants spend employed to 4.7, the 5.4 fewer months spent in full-time employment by immigrants to 4.1 fewer months, as well as, the 7.4 fewer months employed as their sole activity to 4.8 fewer months across immigrants and natives. Immigrants are not in the labor force one month less often than natives; this difference is also explainable by immigrant's aspirations for college. Roughly one third of the difference in months between immigrant and native school-to-work choices are explainable by immigrant's higher aspirations to be a college graduate, despite their choice to leave school and enter the work force before attaining a college degree.

Table E.1: Individual and Family Characteristics Slightly impact Immigrant's School-to-Work Activities

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Immigrant	**5.5** (7.46)	**-6.5** (-7.41)	**1.9** (2.74)	**-5.4** (-5.71)	**4.2** (6.25)	**-7.4** (-8.37)	**2.2** (4.85)	**-1.3** (-4.28)	**-0.9** (-2.00)
Immigrant Controlling for:									
Race	**4.8** (6.12)	**-5.2** (-5.6)	**1.5** (2.0)	**-4.1** (-4.1)	**4.09** (5.7)	**-6.5** (-6.8)	**2.0** (4.1)	**-1.65** (-4.9)	**-1.38** (-2.69)
Academic Achievement	**5.07** (7.9)	**-6.6** (-7.5)	**1.9** (2.8)	**-5.5** (-5.7)	**4.3** (6.8)	**-7.6** (-8.7)	**2.3** (5.1)	**-1.4** (-4.5)	**-1.05** (-2.2)
English Skills	**4.7** (5.7)	**-5.5** (-5.5)	**1.6** (2.0)	**-4.7** (-4.3)	**3.8** (5.0)	**-6.6** (-6.6)	**1.98** (3.7)	**-1.4** (-3.9)	-1.0 (-1.9)
Disappointed if Not College Graduate	**3.7** (5.2)	**-4.7** (-5.4)	**1.6** (2.3)	**-4.1** (-4.3)	**2.6** (4.0)	**-4.8** (-5.7)	**1.3** (2.9)	**-1.1** (-3.5)	-0.4 (-0.99)
Parent's Education	**5.06** (7.06)	**-5.9** (-6.9)	**1.85** (2.63)	**-4.9** (-5.2)	**3.9** (6.1)	**-6.8** (-7.8)	**1.9** (4.2)	**-1.4** (-4.4)	**-1.0** (-2.0)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

Furthermore, race does not explain immigrants school-to-work differences. Controlling for race in the regression with the immigrant dummy does not result in significant changes of the immigrant dummy coefficients. Controlling for racial differences, for example, reduces the difference between immigrant and native accumulated months spent attending post-secondary school from 5.5 months to 4.8 months. Thus, controlling for race, immigrant youth who initially leave school as high school graduates or with some post-secondary education, attend 17.5 months of post-secondary school instead of the 18.2 months of post-secondary school on average when not controlling for race. Therefore, race has only a slight, and not significant, impact on the overall immigrant differences.

Academic achievement also is not influencing immigrants to establish different school-to-work patterns; nor is it English as a first language, or English skills in high school, gender, or whether the youth has a child. Family characteristics, such as family income, number of siblings, and whether the mother worked during high school have relatively no effect on immigrant school-to-work differences. Parent's education, particularly the father's education, slightly effects how immigrant youth who initially leave school with a high school degree and enter the labor force make school-to-work choices. Parent's education impacts only an immigrant's decision concerning employment, particularly full-time employment or employment as a single activity. Therefore, other unobservable or immigrant-specific characteristics, singly or combined, are impacting an immigrant's decision to attend more post secondary schooling and work less, particularly full-time employment and employment as the only activity. This suggests support for immigrant youth being an inherently select group of highly motivated individuals.

Do Individual or Family Characteristics explain the Different School-to-Work Paths of Recent vs. Earlier Immigrants ?

Analyzing individual and family characteristics effect on the immigrant differences according to years spent in the United States reveals several important facts (Table E.2). First, the largest influence on immigrant differences, as one would expect from the previous section, is their disappointment in not being a college graduate. Disappointment in not attaining college eliminates all the differences in months spent in schooling, employment, either part- or full-time, or as a single activity, as well as the difference in not in the labor force months for immigrants in the United States over ten years. Thus, controlling for college aspirations explains all of the school-to-work differences for immigrant youth in the United States over ten years, which are immigrants who came earlier than age eight to the United States.

College aspirations also seem to explain the differences in part-time employment, combining work with school, employment as a single activity, school as a single activity, as well as, not in the labor force months for immigrants in the United States six to ten years. But college aspirations only marginally impact the other school-to-work decisions of immigrants in the United States six to ten year. For immigrants in the United States six to ten years, college aspirations minimally impact both schooling and employment choices, particularly full-time employment months. The 6.1 additional months spent in post-secondary education as a full-time activity is reduced to 4 additional months. The 7.6 fewer months spent employed as a full-time activity is reduced to 5.4 fewer months, where as the 6.4 fewer months in full-time employment is reduced to 4.7 fewer months.

For recent immigrants, disappointment in not being a college graduate seems to explain all of the differences in unemployment and not in the labor force months, but only a minimal amount of the differences across the school-to-work decisions concerning school and employment. There is a reduction in the differences across the schooling and employment months by 2 months. College aspirations primarily impact the various decisions concerning work and post-secondary school by lessening the differences between recent immigrants and natives in terms of two outcomes: the number of months spent combining work with school and the number of months spent employed as a single activity. Controlling for college aspirations reduces the 4.4 additional months recent immigrants spend combining work with school to 2.8 additional months. College aspirations also reduces the 12.2 fewer months recent immigrants spend employed as their sole activity to 9.6 fewer months.

Thus, college aspirations appear to explain the post-secondary and employment differences across natives and immigrants in the United States education system since at least second grade, as well as, most of the school-to-work schooling differences for immigrants in the United States educational system since at least seventh or third grade. However, the school-to-work differences in terms of employment and schooling do persist across natives and immigrants in the United States school system since eighth grade until their Senior year in high school, despite their college aspirations. College aspirations tend to explain the different schooling and employment patterns of immigrants in the United States prior to seventh grade, while other unobservable influences are driving the different employment and post-secondary education paths of immigrants who arrive and enter the school system later than eighth grade.

Other individual characteristics influence the decisions of recent, rather than earlier immigrants. Race, for example, impacts primarily the employment decisions of immigrants who have spent less time in the United States. Overall , race has a slight impact on the employment differentials for earlier or recent immigrants. But race decreases the fewer number of months that immigrants spend employed from 3.4, 7.6, and 12.6 fewer months to 2.9, 6.6, and 9.5 fewer months for immigrants in the United States over ten years, six to ten years and one to five years, respectively. Race explains one quarter of the difference in months employed for recent immigrants vs. natives. The slight impact of race on number of months employed by recent immigrants indicates that race partially explains why recent immigrants work less than natives; the racial impact on employment activity of recent immigrants could be accounting for racial discrimination in the labor market. Moreover, race does not impact the schooling differentials between natives and immigrants, regardless of the number of years they have spent in the United States.

Besides investigating racial influences, the impact of academic achievement, English grades in high school, as well as, non-English first language on youth's schooling and employment paths were examined. Academic achievement, English grades in high school , and having a non-English first language slightly influenced the employment activities of earlier and recent immigrants compared to natives. But the impact was minor. Furthermore, family characteristics did not impact the immigrant patterns across years spent in the United States. Thus in general, individual or family characteristics do not differ substantially across earlier and recent immigrants compared to natives. Race, academic achievement, and non-English first language tend to slightly impact the employment differences for recent immigrants, but the immigrant and native differentials, even accounting for these traits, remain large between recent immigrants and natives.

Table E.2: Various Individual or Family Characteristics explain the Different School-to-Work Activities for Earlier vs. Recent Immigrants

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Years in US:									
Over 10 Years	**3.3**	**-3.4**	1.0	-2.13	**4.8**	**-6.1**	**1.3**	**-1.4**	**-1.4**
	(3.34)	(-2.84)	(1.05)	(-1.65)	(5.27)	(-5.06)	(2.01)	(-3.37)	(-2.20)
6-10 Years	**6.1**	**-7.6**	2.2	**-6.4**	2.5	**-5.9**	**1.8**	**-1.6**	-0.06
	(4.19)	(-4.39)	(1.65)	(-3.41)	(1.91)	(-3.38)	(2.07)	(-2.63)	(-0.06)
1-5 Years	**9.6**	**-12.6**	**3.6**	**-12.1**	**4.4**	**-12.2**	**4.7**	-0.9	-0.67
	(6.38	(-7.03)	(2.57)	(-6.30)	(3.29)	(-6.77)	(5.06)	(-1.44)	(-0.68)
Years in US Controlling for:									
Race									
Over 10 Years	**3.1**	**-2.9**	0.7	-1.6	**4.7**	**-5.8**	**1.2**	**-1.5**	**-1.7**
	(3.0)	(-2.4)	(0.7)	(-1.2)	(5.0)	(-4.7)	(2.0)	(-3.6)	(-2.5)
6-10 Years	**5.9**	**-6.6**	2.0	**-5.3**	**2.7**	**-5.3**	**1.8**	**-2.0**	-0.6
	(4.0)	(-3.8)	(1.4)	(-2.8)	(2.0)	(-3.0)	(2.0)	(-3.2)	(-0.6)
1-5 Years	**7.5**	**-9.5**	2.7	**-9.4**	**3.8**	**-9.8**	**3.9**	**-1.4**	-1.1
	(4.7)	(-5.1)	(1.8)	(-4.6)	(2.7)	(-5.2)	(4.0)	(-2.0)	(-1.0)
Academic Achievement									
Over 10 Years	**2.8**	**-3.2**	0.8	-2.0	**4.2**	**-5.6**	1.07	**-1.2**	-1.1
	(2.9)	(-2.6)	(0.9)	(-1.5)	(4.8)	(-4.7)	(1.7)	(-3.0)	(-1.7)
6-10 Years	**6.2**	**-7.8**	2.3	**-6.5**	**2.6**	**-6.1**	**1.96**	**-1.65**	-0.03
	(4.4)	(-4.5)	(1.6)	(-3.5)	(2.1)	(-3.6)	(2.2)	(-2.7)	(-0.00)
1-5 Years	**11.0**	**-13.2**	**4.0**	**-12.4**	**6.0**	**-13.5**	**5.3**	**-1.4**	-1.5
	(7.5)	(-7.4)	(2.8)	(-6.4)	(4.6)	(-7.6)	(5.7)	(-2.2)	(-1.5)
English Skills									
Over 10 Years	**2.5**	-2.4	0.7	-1.4	**4.3**	**-5.2**	0.9	**-1.5**	**-1.4**
	(2.3)	(-1.9)	(0.7)	(-1.0)	(4.5)	(-4.1)	(1.4)	(-3.2)	(-2.07)
6-10 Years	**5.2**	**-6.5**	1.9	**-5.5**	2.0	**-4.9**	1.5	**-1.7**	-0.01
	(3.4)	(-3.6)	(1.37)	(-2.89)	(1.5)	(-2.7)	(1.6)	(-2.6)	(-0.11)
1-5 Years	**9.0**	**-11.8**	**3.4**	**-11.6**	**4.2**	**-11.6**	**4.5**	-1.0	**-0.08**
	(5.9)	(-6.4)	(2.3)	(-5.7)	(3.0)	(-6.3)	(4.7)	(-1.59)	(-0.07)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: KEY for this Table is on next page.

Table E.2 Continued: Various Individual or Family Characteristics explain the Different School-to-Work Activities for Earlier vs. Recent Immigrants

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Years in US:									
Over 10 Years	**3.3** (3.34)	**-3.4** (-2.84)	1.0 (1.05)	-2.13 (-1.65)	**4.8** (5.27)	**-6.1** (-5.06)	**1.3** (2.01)	**-1.4** (-3.37)	**-1.4** (-2.20)
6-10 Years	**6.1** (4.19)	**-7.6** (-4.39)	2.2 (1.65)	**-6.4** (-3.41)	2.5 (1.91)	**-5.9** (-3.38)	**1.8** (2.07)	**-1.6** (-2.63)	-0.06 (-0.06)
1-5 Years	**9.6** (6.38	**-12.6** (-7.03)	**3.6** (2.57)	**-12.1** (-6.30)	**4.4** (3.29)	**-12.2** (-6.77)	**4.7** (5.06)	-0.9 (-1.44)	-0.67 (-0.68)
Years in US Controlling for:									
Disappointed if Not College Gradute									
Over 10 Years	1.7 (1.7)	-1.7 (-1.4)	0.7 (0.7)	-0.8 (-0.6)	**3.3** (3.7)	**-3.7** (-3.2)	0.3 (0.6)	**-1.2** (-2.8)	-0.9 (-1.4)
6-10 Years	**4.0** (2.8)	**-5.4** (-3.2)	1.9 (1.4)	**-4.7** (-2.5)	0.6 (0.5)	-2.8 (-1.7)	0.7 (0.8)	**-1.3** (-2.2)	0.5 (0.5)
1-5 Years	**7.7** (5.3)	**-10.7** (-6.1)	**3.3** (2.3)	**-10.8** (-5.6)	**2.8** (2.1)	**-9.6** (-5.6)	**3.7** (4.1)	-0.6 (-1.0)	-0.15 (-0.1)
Parent's Education									
Over 10 Years	**2.69** (2.7)	**-2.7** (-2.3)	0.92 (0.9)	-1.63 (-1.2)	**4.3** (4.9)	**-5.3** (-4.5)	0.86 (1.4)	**-1.4** (-3.3)	**-1.3** (-2.0)
6-10 Years	**6.3** (4.4)	**-7.4** (-4.3)	2.3 (1.6)	**-6.0** (-3.2)	**3.0** (2.3)	**-6.0** (-3.5)	**1.89** (2.1)	**-1.96** (-3.1)	-0.4 (-0.4)
1-5 Years	**8.7** (6.0)	**-11.7** (-6.6)	**3.4** (2.4)	**-11.4** (-5.9)	**3.8** (2.9)	**-11.1** (-6.3)	**4.2** (4.6)	-0.8 (-1.32)	-0.5 (-0.5)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. And school is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

The next section investigates whether after controlling for individual and family characteristics, the (slight) remaining immigrant differences in number of months in post-secondary education and employment are influenced by an individual's type of high school, local labor market, or available opportunities at post-secondary institutions.

Does an Immigrant Student's Environment explain their Different School-to-Work Paths ?

The decision to leave school and enter the workforce could be attributed to the type and quality of high school that they attend or the local labor market opportunities and conditions. Therefore, by controlling for individual and family traits as well as ability and academic preparation, the question can be asked whether there are specific elements in an immigrant student's environment in the high school or in the labor market that influence their school-to-work decisions. Do schooling and employment decisions for students with identical academic preparation differ systematically because of the different immigrant and native high school or different labor market opportunities and constraints confronted by immigrants and natives?

The combined set of family and individual characteristics, used as a set of controls, -- gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college-- explained the immigrant differences across part- and full-time employment, not in the labor force months, as well as, the additional months spent by immigrants attending school as their sole activity (Table E.3). The number of months spent unemployed were not influenced by the set of controls. Also combined individual and family traits explained roughly two-thirds of the immigrant and native differences for schooling, as a full-time activity or combined with work, and for employment, as a full-time activity or as a single activity. Therefore, external environment characteristics could explain the 1.7 additional months immigrant spend attending post-secondary education as a full-time activity, the 1.8 additional months immigrants spend combining work with school, the 2.1 fewer months immigrants are employed as a full-time activity, or the 2.6 fewer months immigrants spend employed as their sole activity.

High school characteristics such as urbanity, regional location, percent of high school drop outs, percent of non-English speakers, average district expenditure per pupil, high school enrollment, and miles from Junior College, Vocational or Business School, or four year post-secondary institution .as a proxy for access to post-secondary institutions, were chosen to judge the differences and quality of high schools attended by immigrants and natives. Controlling for individual and family traits as well as ability and academic preparation, several of these high school characteristics -- percent non-English speakers, miles from high school to various post-secondary educational institutions, average district expenditure per pupil, and the high school enrollment -- explained the difference between native and immigrant choices to attend post-secondary education, work, as well as combine work with school, but do not have influence on the decision to work as a single activity (Table E.3). In other words, by controlling for high school characteristics, immigrant and native school-to-work outcomes were not significantly different from each other. Thus, the type of high school environment explained the different school-to-work paths of immigrants and natives concerning school with work, but not in terms of working as their sole activity.

As a result, this analysis suggests that high school characteristics do impact youth's choices and opportunities for furthering their education at a post-secondary level, but that employment differences, in terms of working as a single activity, between immigrants and natives during their school-to-work transition are not impacted by high school characteristics. For example, the higher the percentage of high school drop outs in a school, the fewer number of months immigrants spend in post-secondary schooling, thereby eliminating the difference between immigrant and native youth. On the other hand, the more a district spends on average per pupil in high school, the more months immigrants tend to attend post-secondary schooling from the age of 18 to 24 compared to natives. The higher percentage of non-English speakers in a high school also encourages immigrants to attend more months of post-secondary education and less employment compared to natives. Since immigrants are primarily non-English speakers, it potentially can be inferred that the concentration of immigrants provides them support and information sharing which increases the immigrant tendency to attend more post-secondary schooling. Thus, the analysis suggests that the higher the high school quality, the more immigrants are encouraged to attend post-secondary education compared to natives. These results also suggest that immigrants and natives tend to go to high schools of different quality in terms of total enrollment, average district spending, drop out rates, and percent of non-English speakers, after controlling for individual and family characteristics. These relationships and differences need further investigation to decisively disentangle and explain the effects on youth's school-to-work paths.

Immigrant differences in school-to-work patterns could also be attributed to different opportunities in the labor market. Local labor market indicators -- SMSA unemployment rate in 1980, and in 1982, the SMSA employment growth rate from 1980 to 1981, and from 1981 to 1982, and the SMSA manufacturing wage in 1980, in 1981, and in 1982 -- and the miles from Junior College, Vocational or Business School, or four year post-secondary institution were combined and used as a proxy for youth's educational and employment opportunities found in the local area during the time they were making school-to-work transition choices. This proxy for educational and employment opportunities in the local area explained the difference between native and immigrant choices to attend post-secondary education, work, as well as combine work with school, but do not have influence on the decision to work as a single activity. Therefore, employment and educational opportunities for youth in the local area explain the differences across immigrant school-to-work decisions concerning school with work, but not working as their sole activity.

The differences across employment as a single activity were not influenced by high school or labor market characteristics. The consistent 2 months less that immigrants spent in employment as a single activity could possibly be attributed to other unobservable influences, such as discrimination or apprehensiveness toward hiring immigrants by employers. This two month difference is relatively small; it is the difference between 40 months of employment by natives compared to 38 months of employment by immigrants over six years.

Overall, controlling for individual and family characteristics, immigrants and natives differ in terms of their accumulated number of months in post-secondary education, employment as their sole activity and combined with schooling. High school characteristics however seem to explain the different schooling choices made by immigrants indicating that the high school environment, i.e. high school quality in terms of total enrollment, average district spending per pupil, percentage of drop outs, etc., influences immigrant and native school-to-work patterns. On the other hand, neither high school environment or local labor market opportunities explain the entire difference between immigrants and natives. Even controlling for these environmental conditions, immigrants tend to work as their sole activity two months less often on average between the age of 18 and 24 than natives. Thus, other unobservable characteristics, such as discrimination in the labor market toward immigrants or native's higher level of familiarity with the application and employment process in the United States, impact the difference between immigrant and native employment decisions during their transition from school-to-work.

Table E.3: External Influences impact Immigrant School-to-Work Activities

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Immigrant	**5.5** (7.46)	**-6.5** (-7.41)	**1.9** (2.74)	**-5.4** (-5.71)	**4.2** (6.25)	**-7.4** (-8.37)	**2.2** (4.85)	**-1.3** (-4.28)	**-0.9** (-2.00)
Controlling for:									
Set of Controls*	**1.74** (2.1)	**-2.1** (-2.1)	1.09 (1.3)	-1.92 (-1.7)	**1.88** (2.6)	**-2.6** (2.7)	0.37 (0.7)	**-1.3** (-3.8)	-0.53 (-0.9)
Miles from HS to Colleges (with Controls)	1.15 (1.34)	-1.97 (-1.87)	0.28 (0.32)	-1.57 (-1.36)	0.98 (1.29	**-2.34** (-2.34)	0.53 (0.97)	**-1.2** (-3.17)	-0.5 (-0.9)
Av. District Expenditure per Pupil (with Controls)	1.1 (1.33)	-1.8 (-1.72)	0.53 (0.60)	-1.52 (-1.3)	1.29 (1.69)	**-2.35** (-2.3)	0.39 (0.7)	**-1.37** (-3.5)	-0.7 (-1.27)
HS Enrollment (with Controls)	1.17 (1.36)	-1.98 (-1.87)	0.28 (0.32)	-1.57 (-1.36)	0.99 (1.30)	**-2.34** (-2.3)	0.54 (0.98)	**-1.29** (-3.33)	-0.5 (-1.0)
Labor Market Indicators & Miles from HS to Colleges (with Controls)	1.07 (1.25)	-1.92 (-1.82)	0.11 (0.12)	-1.35 (-1.17)	0.98 (1.28)	**-2.3** (-2.26)	0.47 (0.85)	**-1.1** (-2.9)	-0.4 (-0.7)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

Does a Student's Environment explain the Recent vs. Earlier Immigrant School-to-Work Paths ?

Youth's school-to-work choices are influenced by the type of high school they attend. Their decisions are also impacted by the labor market and post-secondary institution opportunities available in their local area. These effects are found when controlling for individual and family traits as well as ability and academic preparation. Furthermore, recent immigrants make different employment and schooling choices than immigrants who have spent more than six years in the United States. Controlling for individual and family characteristics and motivations, immigrants spend 2.8 additional months attending post-secondary education as a full-time activity and 3.4 fewer months combining work with school by immigrant in the United States six to ten years. Recent immigrants, accounting for individual and family traits, differ across all the school and employment decisions during a youth's transition, except part-time employment. Recent immigrants spend roughly 6 additional months compared to natives in post-secondary education, three of which are combined with work and three are as a single activity. They also spend roughly 7.5 fewer months than natives employed, either as a full-time activity, in full-time employment, or as a single activity, when controlling for various individual and family traits. Therefore, high school type, labor market and post-secondary opportunities could influence recent and earlier immigrants' decisions differently.

High school characteristics such as urbanity, region, percent of high school drop outs, percent of non-English speakers, average district expenditure per pupil, high school enrollment, and miles from Junior College, Vocational or Business School, or four year post-secondary institution were chosen to judge the differences and quality of high schools attended by immigrants and natives. Controlling for individual and family traits as well as ability and academic preparation, all of these high school characteristics individually or combined did explain the additional 2.8 months immigrants in the United States six to ten years spend attending post-secondary education than natives and the 3.4 additional months recent immigrants spend combining work with school (Table E.4). High school characteristics also reduced by one month the number of 7.2 fewer months recent immigrants spend employed as a full-time activity or in full-time employment. High school type had no effect, however, on the fewer number of months immigrants in the United States six to ten years are employed, the additional months recent immigrants spent in school as a single activity, the fewer number of months they spend employed as their sole activity. Thus, high school characteristics influenced the schooling choice of an immigrant in the United States six to ten years as well as the choice of a recent immigrant to combine work with school. However, persistent differences remain between recent immigrants and natives in terms of their accumulated work experience as a single activity or full-time employment. High school characteristics primarily impact the choices and opportunities for furthering post-secondary education.

Local labor market indicators -- SMSA unemployment rate in 1980, and in 1982, the SMSA employment growth rate from 1980 to 1981, and from 1981 to 1982, and the SMSA manufacturing wage in 1980, in 1981, and in 1982 -- and the miles from Junior College, Vocational or Business School, or four year post-secondary institution were combined and used as a proxy for youth's educational and employment opportunities found in the local area during the time they were making school-to-work transition choices (Table E.5). The educational and labor market opportunities explained the differences in schooling and employment activities for immigrants in the United States six to ten years. Therefore, the immigrant and native school-to-work differences for immigrants in the United States six to ten years are a result of different labor market and post-secondary opportunities controlling for individual and family characteristics. Immigrants tend to be more influenced by the local unemployment rate, employment growth, and manufacturing wage. Immigrants in the United States six to ten years seem to be most susceptible to changes in the local economy. These proxies for change in the local economy and labor market opportunities for youth indicate that when the unemployment rates rose, immigrants spent more months in school and less in employment, including part-time employment. Natives on the other hand were not influenced in this manner and were able to maintain their employment, full-time or part-time.

Furthermore, educational and employment opportunities explained the additional months of combined work with school for recent immigrants, decreased the 6 additional months recent immigrants attend post-secondary education to 4.6 additional months, but did not influence the 3 additional months recent immigrants are in school as their sole activity. The educational and employment opportunities reduced by one month the 7.2 fewer months recent immigrants spend employed as a full-time activity and the 7.6 fewer months they spend in full-time employment; the number of months recent immigrants spend employed as their sole activity was not changed. This indicates that the overall impact of the education and labor market opportunities for recent immigrants is primarily on their decisions to combine work with school. However, other unobservable factors still explain the difference between natives and recent immigrants in terms of combining work with post-secondary education.

Therefore, high school type as well as the local schooling and employment opportunities of youth during their transition from school into the workforce impact the schooling choice of immigrants in the United States six to ten years and the choice of a recent immigrant to combine work with school. There is also a slight influence of local schooling and employment opportunities on the employment decisions of recent immigrants when they are combining school with full-time employment. But the main influence is on youth's paths for furthering post-secondary education. In the end, the different paths of recent immigrants are explained by other unobservable characteristics and conditions. Persistent differences remain between recent immigrants and natives in terms of their accumulated work experience as a single activity or full-time employment or schooling as a single activity. Unique unexplainable immigrant characteristics seem to be a factor in recent immigrant's paths of schooling, as a single activity, or employment, particularly full-time employment or as a single activity.

Table E.4: High School Characteristics impact the School-to-Work Activities of Recent and Earlier Immigrants

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Over 10 Years	**3.3** (3.34)	**-3.4** (-2.84)	1.0 (1.05)	-2.13 (-1.65)	**4.8** (5.27)	**-6.1** (-5.06)	**1.3** (2.01)	**-1.4** (-3.37)	**-1.4** (-2.20)
6-10 Years	**6.1** (4.19)	**-7.6** (-4.39)	2.2 (1.65)	**-6.4** (-3.41)	2.5 (1.91)	**-5.9** (-3.38)	**1.8** (2.07)	**-1.6** (-2.63)	-0.06 (-0.06)
1-5 Years	**9.6** (6.38	**-12.6** (-7.03)	**3.6** (2.57)	**-12.1** (-6.30)	**4.4** (3.29)	**-12.2** (-6.77)	**4.7** (5.06)	-0.9 (-1.44)	-0.67 (-0.68)
Years in US Controlling for: Set of Controls*									
Over 10 Years	-0.5 (-0.5)	0.37 (0.30)	0.18 (0.17)	0.61 (0.4)	1.74 (1.95)	-1.3 (-1.1)	-0.6 (-0.9)	**-1.08** (-2.4)	-0.42 (-0.6)
6-10 Years	**2.8** (2.0)	**-3.4** (-1.99)	1.5 (1.0)	-2.9 (-1.5)	0.45 (0.3)	-1.2 (-0.7)	0.22 (0.25)	**-1.89** (-2.9)	0.20 (0.2)
1-5 Years	**6.0** (4.0)	**-7.2** (-3.8)	2.87 (1.85)	**-7.6** (-3.7)	**3.44** (2.5)	**-7.6** (-4.2)	**3.0** (3.1)	**-1.68** (-2.4)	-1.34 (-1.3)
High School Characteristics (with Controls)**									
Over 10 Years	-0.6 (-0.5)	0.16 (0.12)	-0.14 (-0.1)	0.53 (0.3)	1.1 (1.17)	-1.11 (-0.8)	-0.43 (-0.6)	**-1.04** (-2.1)	-0.42 (-0.5)
6-10 Years	2.3 (1.58)	**-3.69** (-2.0)	0.33 (0.2)	-2.77 (-1.39)	-0.52 (-0.4)	-1.5 (-0.8)	0.69 (0.7)	**-1.59** (-2.3)	0.05 (0.05)
1-5 Years	**4.7** (2.9)	**-6.5** (-3.3)	0.92 (0.5)	**-6.3** (-2.9)	2.14 (1.52)	**-7.28** (-3.8)	**3.13** (3.08)	-1.12 (-1.5)	-1.11 (-1.04)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient and bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

** The high school characteristics include percent of high school drop outs, percent of non-English speakers, average district expenditure per pupil, high school enrollment, and miles from Junior College, Vocational or Business School, or four year post-secondary institution.

Table E.5: External Influences impact the School-to-Work Activities of Earlier & Recent Immigrants

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Years in US:									
Over 10 Years	**3.3** (3.34)	**-3.4** (-2.84)	1.0 (1.05)	-2.13 (-1.65)	**4.8** (5.27)	**-6.1** (-5.06)	**1.3** (2.01)	**-1.4** (-3.37)	**-1.4** (-2.20)
6-10 Years	**6.1** (4.19)	**-7.6** (-4.39)	2.2 (1.65)	**-6.4** (-3.41)	2.5 (1.91)	**-5.9** (-3.38)	**1.8** (2.07)	**-1.6** (-2.63)	-0.06 (-0.06)
1-5 Years	**9.6** (6.38	**-12.6** (-7.03)	**3.6** (2.57)	**-12.1** (-6.30)	**4.4** (3.29)	**-12.2** (-6.77)	**4.7** (5.06)	-0.9 (-1.44)	-0.67 (-0.68)
Years in US Controlling for:									
Set of Controls*									
Over 10 Years	-0.5 (-0.5)	0.37 (0.30)	0.18 (0.17)	0.61 (0.4)	1.74 (1.95)	-1.3 (-1.1)	-0.6 (-0.9)	**-1.08** (-2.4)	-0.42 (-0.6)
6-10 Years	**2.8** (2.0)	**-3.4** (-1.99)	1.5 (1.0)	-2.9 (-1.5)	0.45 (0.3)	-1.2 (-0.7)	0.22 (0.25)	**-1.89** (-2.9)	0.20 (0.2)
1-5 Years	**6.0** (4.0)	**-7.2** (-3.8)	2.87 (1.85)	**-7.6** (-3.7)	**3.44** (2.5)	**-7.6** (-4.2)	**3.0** (3.1)	**-1.68** (-2.4)	-1.34 (-1.3)
Labor Market Indicators & Miles from HS to Colleges (with Controls)									
Over 10 Years	-0.7 (-0.7)	0.34 (0.26)	-0.18 (-0.1)	0.72 (0.5)	1.1 (1.1)	-0.98 (-0.7)	-0.5 (-0.8)	**-0.9** (-2.0)	-0.3 (-0.47)
6-10 Years	2.09 (1.4)	-3.24 (-1.7)	0.33 (0.2)	-2.27 (-1.1)	-0.3 (-0.2)	-1.2 (-0.7)	0.4 (0.44)	**-1.56** (2.35)	0.10 (0.10)
1-5 Years	**4.6** (2.8)	**-6.5** (-3.3)	0.85 (0.5)	**-6.0** (-2.8)	2.1 (1.49)	**-7.0** (-3.7)	**3.0** (2.95)	-1.04 (-1.46)	-1.0 (-0.9)
Mean for Natives	12.7	40.3	13.3	32.2	13.1	33.1	6.7	4.2	8.2

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

Does a Student's Environment Explain the School-to-Work Paths for Immigrants from Different Countries of Origin?

Controlling for known individual and family influences, immigrants continue to differ from natives across country of origin. Immigrant differences remain in terms of the additional months of schooling for Mexicans (4.4 months) and Asians (6.3 months), part-time employment months for Asians (5.1 months), combining work with school months for Mexicans (5.3 months), Central Americans (2.7 months), and Asians (3.4 months), schooling as a single activity for Asians (3.2 months), as well as fewer months spent employed part-time (5.1 months) and full-time (6.6 months) for Asians, and months spent employed as their single activity for Mexicans (4.2 months) and Asians (4.2 months). Can these persistent differences across country of origin be explained by the environment in which these youth make their school-to-work decisions? Environment and local opportunities impacted primarily the schooling paths undertaken by immigrants as a group. Will these influences be systematic across country of origin or particular to an immigrant sub-group. This section addresses these questions.

Table E.6 and E.7 report these baseline differences and the impact of the labor market and educational opportunities on school-to-work choices by country of origin. Accounting for the family and individual characteristics as well as the labor market and educational opportunities explains all of the fewer months Mexicans and Asians spend employed as their sole activity, as well as the additional months that Central Americans and Asians spend combining work with school. Moreover, the educational and labor market opportunities slightly impact Mexicans decisions of combing work with school (from 5.3 fewer months to 4.2 months) but do not influence their decisions of attending school as a full-time activity. This difference remains at 4.4 additional months spent in post-secondary education for Mexicans. The educational and labor market opportunities also slightly impact the Asians decisions to work part-time (from 5.2 additional months to 3.7 months), but do not impact their full-time employment decisions or post-secondary education decisions. Overall, the local educational and labor market opportunities impact the paths of employment as a single activity path for Mexicans and Asians, as well as, the path combining work with school for Central Americans and Asians. Mexican and Asian post-secondary education paths and Asian full-time employment paths remained unchanged by local educational and labor market conditions and must be influenced by other unobservable characteristics. The unexplainable immigrant differences are primarily Mexican and Asian immigrant differences.

High school characteristics, controlling for the individual and family traits of the students, seem to explain the different school-to-work paths of immigrants and natives concerning school combined with work, but not in terms of working as their sole activity. After controlling for individual and family characteristic, high school characteristics appear to explain the immigrant schooling differences, implying that high schools with different quality and characteristics in terms of total enrollment, average district spending, drop out rates, and percent of non-English speakers, impact the schooling decisions of immigrants compared to natives during their school-to-work transition. High school characteristics also seemed to influence the schooling choice of an immigrant in the United States six to ten years as well as the choice of a recent immigrant to combine work with school. This suggests that the higher the high school quality, in terms of a low percentage of high school drop outs in a school or the more a district spends on average per pupil , all immigrants, but particularly earlier immigrants, are encouraged to attend post-secondary education and recent immigrants are encouraged to combine school with work compared to natives.

Furthermore, employment and educational opportunities for youth in the local area also explained the differences across immigrant school-to-work decisions concerning combining school with work, but not working as their sole activity. The differences across employment as a single activity were not influenced by high school or labor market characteristics. Persistent differences also remained between recent immigrants and natives in terms of their accumulated work experience as a single activity or full-time employment. The consistent two months less that immigrants, primarily recent immigrants, spent in employment as a single activity could possibly be attributed to other unobservable influences, such as discrimination or apprehensiveness toward hiring immigrants by employers or native's familiarity of the United States labor market, particularly in terms of filling out applications and gaining access to information. Moreover, this two month difference is relatively small; it is the difference between 40 months of employment by natives compared to 38 months of employment by immigrants over six years.

Table E.6: The Set of Controls impact on Immigrant's School-to-Work Paths by Country of Origin

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Set of Controls* **Mexico**	**4.4** (2.4)	-2.5 (-1.13)	2.26 (1.2)	-1.4 (-0.5)	**5.3** (3.2)	**-4.2** (-2.0)	0.92 (0.7)	-1.37 (-1.69)	0.52 (0.4)
CentralAmerica	-0.6 (-0.47)	-1.7 (-0.8)	-0.06 (-0.4)	0.7 (0.4)	**2.7** (2.2)	2.7 (-1.7)	0.95 (-1.1)	**-1.48** (-2.4)	**-1.58** (-3.0)
Europe/Canada	-2.1 (-1.25)	-1.35 (-0.5)	-0.9 (-0.5)	-1.3 (-0.5)	-2.6 (-1.7)	-0.07 (-0.01)	-1.21 (-1.1)	-0.71 (-0.9)	-0.187 (-0.16)
Africa	3.5 (1.75)	-3.8 (-0.5)	3.0 (1.4)	-1.7 (-0.6)	2.7 (1.5)	-1.2 (-0.5)	0.6 (0.4)	**-1.86** (-2.0)	-1.16 (-0.8)
Asia	**6.3** (3.7)	-3.8 (-1.8)	**5.18** (2.9)	**-6.6** (-2.9)	**3.4** (2.2)	**-4.2** (-2.0)	**3.2** (3.0)	-1.31 (-1.7)	-1.92 (-1.66)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S equals Post-secondary Schooling months
E equals Full-time Activity Employment months
PE equals Part-time Employment months
FE equals Full-time Employment months
E&S equals Combined Post-Secondary Schooling and Employment months
EO equals Only Employment months
SO equals Only Post-secondary Schooling months
UM equals Unemployment months
NILF equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

Table E.7: Labor Market & Educational Opportunities effect on School-to-Work Paths by Country of Origin

	S	E	PE	FE	E&S	EO	SO	UM	NILF
Mexico	**4.2** (2.25)	-2.9 (-1.33)	2.3 (1.33)	-1.9 (-0.81)	**4.4** (2.63)	-3.8 (-1.73)	0.68 (0.58)	-0.9 (-1.18)	1.18 (0.96)
CentralAmerica	**3.2** (2.42)	**-4.6** (-2.92)	0.2 (0.21)	-2.6 (-1.57)	**5.4** (4.50)	**-7.7** (-4.88)	0.93 (1.13)	**-1.9** (-3.32)	**-2.1** (-2.53)
Europe/Canada	1.8 (1.02)	-3.6 (-1.65)	-0.5 (-0.32)	-1.5 (-0.66)	1.38 (0.83)	-3.7 (-1.71)	0.64 (0.56)	**-2.0** (-2.54)	-2.07 (-1.72)
Africa	**6.1** (2.82)	**-8.39** (-3.24)	3.0 (1.49)	**-8.32** (-2.98)	2.9 (1.48)	**-7.7** (-2.99)	**2.6** (1.94)	-0.22 (-0.23)	-0.03 (-0.02)
Asia	**12.3** (8.46)	**-11.4** (-6.5)	**5.9** (4.31)	**-11.7** (-6.27)	**6.7** (5.10)	**-11.5** (-6.60)	**5.6** (6.29)	**-1.24** (-1.98)	**-2.0** (-2.19)
Labor Market Indicators & Miles from HS to Colleges (with Controls*)									
Mexico	**4.0** (2.1)	-3.04 (-1.31)	0.77 (0.3)	-1.1 (-0.4)	**4.2** (2.5)	-4.4 (-1.9)	1.12 (0.9)	-1.59 (-1.8)	0.95 (0.74)
CentralAmerica	-1.65 (-1.15)	0.30 (0.17)	-2.18 (-1.4)	-2.0 (-1.0)	2.05 (1.6)	-2.39 (-1.4)	-1.01 (-1.1)	-1.26 (-1.9)	-1.04 (-1.0)
Europe/Canada	-2.78 (-1.56)	-1.76 (-0.8)	-2.0 (-1.1)	-0.9 (-0.3)	-3.18 (-2.0)	-0.17 (-0.001)	-1.18 (-1.04)	-0.24 (-03)	0.36 (0.3)
Africa	3.0 (1.38)	-1.5 (-0.5)	2.94 (1.31)	-1.96 (-0.6)	1.14 (0.5)	-0.6 (-0.2)	0.9 (0.7)	-1.51 (-1.5)	-1.7 (-1.1)
Asia	**5.5** (3.0)	-4.3 (-1.9)	**3.74** (2.0)	**-6.7** (-2.7)	1.44 (0.9)	-3.9 (-1.8)	**3.72** (3.2)	-0.64 (-0.8)	-1.4 (-1.17)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient. Bolded coefficients are significant at the .05 p-level.

* The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, ability, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

APPENDIX F: POTENTIAL IMMIGRANT EFFECT ON OTHER OBSERVABLES

SCHOOL-TO-WORK PATTERNS BY ENGLISH LANGUAGE CHARACTERISTICS

Immigrant youth in the American education system, who do not speak English, are taught English as part of their education. English is taught as part of bilingual education not only for immigrants but also for natives who are not fluent in English. Non-English speakers are taught English alongside other subjects. Learning English is a large part of the assimilation process in the United States for most immigrants. The degree to which they learn English and become proficient influence their success in school as well as impact the decisions they make thereafter.

English competency influences an individual's educational progress. Evidence exist that students with a non-English primary language fare better and worse than their counterparts. Many studies indicate that regardless of their degree of English Proficiency or bilingual education, language-minority students tend to perform less well at all grade levels than do students from homes where English is the predominant language.[70] Immigrant children are more likely to be retained in grades and placed in low academic tracks on the basis of insufficient English language skills and low academic progress (Council of Chief State School Officers, 1992). On the other hand, evidence, primarily from case studies of recent immigrants and refugees, suggests that immigrant children make "rapid and positive adjustments" in learning English (Rumbaut, 1990). In many instances, immigrant children and youth outperform native-born whites in terms of basic indicators such as grades and graduation rates. English competency is an important, but complicating factor in an individual's educational and career progression, indicating that English ability may influence the decisions youth make during their transitions from school into the workforce.

In this analysis, English competency was identifiable with a few variables. A dummy variable indicating whether English was an individual's first language. This is a proxy for whether 1) the individual was required to learn English and 2) whether English was used as a primary language in their home. Also competency in speaking, reading, writing, and comprehending English as well as grades in English during high school were measured in 1980 in HSB. Receiving As and Bs in English demonstrates a solid ability in English during high school. To identify English skills, this analysis used 'receiving As and Bs in English' and the dummy variable indicating whether English was a first language.[71]

---

[70] Language minority students are also more likely to be enrolled in vocational courses than in courses on the academic track, albeit this does not indicate a casual impact based on language differences.

Students with a non-English first language are both immigrants and natives. Correcting for grades in English, students with a non-English first language attended 3.3 more months of post-secondary school than their counterparts as well as worked 3.3 months less often as a full-time activity. Specifically, youth with a non-English first language worked 3 months less in full-time employment, 4 months less in employment as single activity, but combined work with school 2 months more often than their English speaking counterparts.

Controlling for English grades in high school and immigrant status, using the number of years an immigrant spent in the United States and their country of origin, illustrates that immigrant characteristics explain all of the non-English first language differences (the 3.3 additional months spent in post-secondary school, and the fewer 2 months spent working). Correcting for immigrant patterns, the non-English first language variable is insignificant across all the school-to-work outcomes. Having good grades in English during high school was significant across all school-to-work activities, which was not affected even controlling for immigrant status.

These differences in English status are partially explained by other characteristics, such as race, parent's education, academic achievement, etc. As shown in Table F.1, the myriad of characteristics used as a set of controls did explain all of the differences in part-time employment, unemployment, but did not change the other employment and schooling differentials across youth with a non-English or English first language.

Specifying immigrant status along with the controls did alter the differences across English and non-English first language youth. Immigrants accounted for all of the additional months spent in full-time employment and combining work with school. Immigrants with a non-English first language accounted for roughly one third (one out of 3) of the additional months spent 1) employed as a single or full-time activity or 2) in post-secondary education as a full-time activity. Natives with a non-English first language accounted for 2 months of additional post-secondary schooling, primarily s a singles activity, and 2 fewer months of employment as a full-time or single activity. English and non-English first language youth do not differ in terms of unemployment or not in the labor force months.

---

[71] Whether English was an individual's first language was used in the analysis because it was consistent with whether English was their first language. There is not a one-to-one correlation between these two variables, as we would expect since lower class whites and blacks also have difficulties with English, but they are highly correlated

Summary

Immigrants and natives have non-English first languages. But the degree to which either group learns English and becomes proficient may influence their decisionmaking process during their school-to-work transition as well as the choices and paths available to them. This analysis found that correcting for immigrants, the differences in school-to-work patterns found between youth with English and non-English first languages are eliminated.

Immigrant status, specified by years spent in the United States and country of origin, explains all of the non-English first language differences across school-to-work paths of youth. Immigrant characteristics explain all of the non-English first language characteristics across all the school-to-work outcomes whereas having good grades in English during high school was not effected by immigrant characteristics. Thus, there is an immigrant effect on youth with a non-English first language. Correcting for the different school-to-work patterns of immigrants explains all of the differences that are found between youth with English and non-English as their first language.

Youth with English and non-English first languages differ during their school-to-work transition in terms of their accumulated number of months in full-time employment and combining work with school. This different pattern of school-to-work activities between youth with a non-English and English first language is explained by the large proportion of immigrants with a non-English first language.[72] Thus, there is an 'immigrant effect' on the number of months youth with a non-English first language spend in full-time employment and combining work with school.

---

[72] The fewer number of months spent in full-time employment and the additional number of months spent combining work with school across youth with non-English and English as a first language could be potentially be explained by youth with a non-English first language having a different trade-off for entering the labor market. Non-English first language youth, primarily immigrants, could return to post-secondary education to obtain instruction in English as a second language as well as remedial tutoring in basic skills. Developing these skills would enhance their ability to transition into full-time employment.

Table F.1: Youth with a Non-English First Language follow different School-to-Work Paths

	Full-Time Activity		Part- vs. Full-Time		Combined vs. Single Activity			Included in All	
	S	E	PE	FE	E&S	EO	SO	UM	NILF
Non-English	**3.36**	**-3.9**	**1.15**	**-3.2**	**2.2**	**-4.1**	**1.29**	-0.4	-0.3
First Language	(5.6)	(-5.5)	(2.0)	(-4.1)	(4.2)	(-5.8)	(3.4)	(-1.19)	(-0.8)
As&Bs in HS	**7.9**	**-6.02**	**2.2**	**-4.3**	**7.1**	**-8.8**	**3.6**	**-1.8**	**-2.07**
English classes	(19.6)	(-12.3)	(5.7)	(-8.2)	(19.6)	(-18.3)	(14.2)	(-10.5)	(-10.2)
RACE CONTROLLING FOR:									
Immigrant Specification *									
Non-English	1.22	**-1.9**	0.30	-1.5	0.18	-1.3	0.4	0.20	0.32
First Language	(1.7)	(-2.2)	(0.44)	(-1.6)	(0.2)	(-1.5)	(1.0)	(0.6)	(0.6)
As&Bs in HS	**7.9**	**-6.0**	**2.2**	**-4.3**	**7.18**	**-8.8**	**3.62**	**-1.8**	**-2.7**
English classes	(19.7)	(-12.3)	(5.7)	(-8.2)	(19.6)	(-18.3)	(14.3)	(-10.5)	(-10.1)
Set of Controls **									
Non-English	**3.36**	**-3.6**	0.68	**-2.6**	**2.01**	**-3.8**	**1.54**	-0.6	**-1.02**
First Language	(4.7)	(-4.1)	(0.9)	(-2.7)	(3.1)	(-4.5)	(3.4)	(-1.9)	(-2.1)
As&Bs in HS	**3.15**	**-2.14**	0.35	-1.02	**2.57**	**-3.0**	**1.46**	-0.7	**-0.96**
English classes	(7.3)	(-4.0)	(0.80)	(-1.7)	(6.6)	(-5.9)	(5.3)	(-3.9)	(-3.3)
Immigrant Specific. & Controls									
Non-English	**2.35**	**-2.58**	0.04	-1.6	0.98	**-2.46**	**1.24**	-0.04	-0.62
First Language	(2.9)	(-2.6)	(0.05)	(-1.4)	(1.37)	(-2.6)	(2.4)	(-0.13)	(-1.16)
As&Bs in HS	**3.16**	**-2.14**	0.35	-1.0	**2.58**	**-3.03**	**1.46**	-0.77	**-0.95**
English classes	(7.3)	(-4.0)	(0.8)	(-1.7)	(6.7)	(-5.9)	(5.3)	(-3.9)	(-3.2)

NOTE: The outcomes are accumulated months of an experience, calculated from the date the respondent entered their transition until the date of the third survey, July 1986. School is defined as 1) only in school or 2) simultaneously in school and working part-time:

S	equals Post-secondary Schooling months
E	equals Full-time Activity Employment months
PE	equals Part-time Employment months
FE	equals Full-time Employment months
E&S	equals Combined Post-Secondary Schooling and Employment months
EO	equals Only Employment months
SO	equals Only Post-secondary Schooling months
UM	equals Unemployment months
NILF	equals Not in the Labor Force or School months

The t-statistic is in parentheses below the coefficient and bolded coefficients are significant at the .05 p-level.

* The immigrant specification includes all countries of origin, 10 to six years and 1 to 5 years in the United States.

** The set of controls include gender, family income in thirds, parent's education, number of siblings, number of children, academic achievement, race, disappointed if not a college graduate, like to work hard, importance of steady work, and importance of financial aid in going to college.

OTHER KNOWN INFLUENCES ON SCHOOL-TO-WORK PATTERNS REMAINED UNCHANGED WHEN CORRECTING FOR IMMIGRANT AND NATIVE DIFFERENCES

Academic achievement, parent's education, and whether the student would be disappointed if they were not a college graduate were analyzed for an 'immigrant effect'. A regression model was compared with the variable in question to an enhanced model also including the immigrant specification of years in the United States and country of origin. These two models were also compared after controlling for the set of individual and family characteristics used through this analysis as a set of controls. However, in every case it was found that the explanatory power of the variable in question overpowered any explanatory effect of immigrants.

In particular, the analysis on college aspirations found a typical case of omitted variable bias. Comparing a basic regression model with immigrant status to an enhanced model with immigrant status and college aspirations (as conducted in Chapter 6 and Appendix E), it was found that college aspirations explained the differences found across immigrant and natives school-to-work activities. Comparing a basic regression model with college aspirations to an enhanced model with college aspirations and the immigrant specification found no change on the coefficient for college aspirations. Moreover, being an immigrant and having high college aspirations are positively correlated. This evidence indicates that the explanatory power of college aspirations for school-to-work outcomes is larger than the explanatory power of immigrant status. Thus, the school-to-work regression models with only immigrant status have estimated coefficients that are biased upward because college aspirations is from the model. College aspirations influence a youth's school-to-work decisions more than being an immigrant.

This analysis did not find an immigrant effect on the know disparities according to academic achievement, parent's education, or a student's college aspirations, but did find an effect on race, as shown in Chapter 7, and non-English first language, as demonstrated here in Appendix F.